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UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

SIERRA CLUB, et al.,	)	Case No. 3:08-cv-01409-WHA
	)	
Plaintiffs,	)	NOTICE OF MOTION, MOTION, AND
v.	)	MEMORANDUM IN SUPPORT OF
	)	PLAINTIFFS' MOTION FOR
STEPHEN JOHNSON, et al.,	)	SUMMARY JUDGMENT
	)	
Defendants,	)	HEARING SCHEDULED
and	)	
	)	DATE: DECEMBER 11, 2008
SUPERFUND SETTLEMENTS PROJECT, et al.,	)	TIME: 8:00 A.M.
	)	PLACE: COURTROOM 6
Defendant-Intervenors.	)	JUDGE: WILLIAM H. ALSUP

NOTICE OF MOTION, MOTION, AND MEMORANDUM IN  
SUPPORT OF PLAINTIFFS' MOTION FOR SUMMARY  
JUDGMENT (Case No. 3:08-cv-01409-WHA)

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NOTICE OF MOTION

Please take notice that the following Motion for Summary Judgment will be heard by the Honorable William H. Alsup, United States District Judge, on December 11, 2008 at 8:00 a.m. in Courtroom 6, 17<sup>th</sup> Floor, Philip E. Burton Courthouse and Federal Building, 450 Golden Gate Avenue, San Francisco, California.

MOTION FOR SUMMARY JUDGMENT

Pursuant to Federal Rule of Civil Procedure 56 and the proposed briefing schedule submitted by plaintiffs, federal defendants, and defendant-intervenors on June 26, 2008, see Joint Case Management Statement (Docket #52) at 6, plaintiffs hereby move for summary judgment on all issues raised in their March 11, 2008 Complaint for Declaratory and Injunctive Relief, on the grounds that there is no genuine issue as to any material fact, and plaintiffs are entitled to judgment as a matter of law.

This motion is based on the following memorandum of points and authorities, the Declarations of John Robison, Taylor Streit, Eleuterio (Teo) Saenz, Judy Riede, Elizabeth Cumberland, Carol Morgan Eagle, Mariana Chew-Sanchez, Ed Hopkins, Richard Cargill, and Dan Randolph, and Exhibits 1 through 15, submitted herewith. This motion is accompanied by a proposed order granting summary judgment in favor of plaintiffs.

INTRODUCTION

For decades, the U.S. Environmental Protection Agency's ("EPA") and U.S. Department of Transportation's ("DOT") have failed to comply with the nation's principle statutory vehicle for addressing the clean-up of improperly disposed hazardous substances. In 1980, the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") required EPA and DOT to promulgate regulations ensuring that certain facilities generating or handling hazardous substances maintain evidence of financial responsibility. 42 U.S.C. § 9608(b). These "financial assurance" regulations were intended to ensure that facilities generating and handling hazardous substances will remain financially able to clean up improperly disposed substances that could pose threats to public

1 health and the environment. CERCLA § 108(b) required EPA and DOT to publish notice of  
 2 priority categories for such regulations no later than December 1983, promulgate the regulations  
 3 themselves beginning in December 1985, and impose financial assurance requirements as quickly as  
 4 could reasonably be achieved but in no event later than four years after promulgation. 42 U.S.C.  
 5 §§ 9608(b)(1) and (3). EPA and DOT, however, have taken none of these steps.

6 Plaintiffs Sierra Club, Amigos Bravos, Great Basin Resource Watch, and Idaho  
 7 Conservation League (collectively, “Sierra Club”) hereby move for summary judgment on their  
 8 claim that EPA and DOT have failed to comply with section 108(b) of CERCLA. In this brief,  
 9 plaintiffs demonstrate: (1) that CERCLA assigns defendants a mandatory duty to promulgate  
 10 regulations that would require certain facilities that generate, treat, store, transport or dispose of  
 11 hazardous substances to establish and maintain evidence of financial responsibility; (2) that  
 12 defendants have failed to comply with these CERCLA requirements; and (3) that the lack of  
 13 financial assurance regulations increases the risk of harm to people and the environment from  
 14 improperly handled hazardous substances. Sierra Club’s claims arise under CERCLA’s citizen suit  
 15 provision, 42 U.S.C. § 9659(a)(2), which authorizes citizen suits against federal officials for failing  
 16 to perform any nondiscretionary act or duty under CERCLA.<sup>1</sup>

## 17 BACKGROUND

### 18 I. THE GOALS OF CERCLA

19 In the wake of the Love Canal disaster, Congress in 1980 enacted CERCLA as the nation’s  
 20 principle statutory vehicle for addressing the clean-up of improperly disposed hazardous substances.  
 21 Its purpose was to ensure the prompt and effective clean-up of waste disposal sites and to assure that  
 22 parties responsible for hazardous substances bore the cost of remedying the conditions they created.

23 Pinal Creek Group v. Newmont Mining Corp., 118 F.3d 1298, 1300 (9<sup>th</sup> Cir. 1997). CERCLA sets  
 24

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25 <sup>1</sup> Pursuant to an agreement between the parties, this summary judgment brief addresses the  
 26 merits of plaintiffs’ claims only. If plaintiffs prevail on the merits, the parties will seek to  
 27 negotiate a settlement of the remedy and attorneys’ fees. See Joint Case Management Statement  
 at 6-7.

1 forth a comprehensive scheme for the clean-up of hazardous substance sites, and imposes liability  
 2 for clean-up costs on the parties responsible for the release or potential release of hazardous  
 3 substances into the environment. Pakootas v. Teck Cominco Metals, Ltd., 452 F.3d 1066,1072 (9<sup>th</sup>  
 4 Cir. 2006); see also Gen. Elec. Co. v. Litton Indus. Automation Sys. Inc., 920 F.2d 1415, 1422 (8<sup>th</sup>  
 5 Cir. 1990) (stating that “two ... main purposes of CERCLA” are “prompt cleanup of hazardous  
 6 waste sites and imposition of all cleanup costs on the responsible party”) (cited with approval in  
 7 Meghrig v. KFCW, Inc., 516 U.S. 479, 483 (1996)).

8 “Hazardous substances” under CERCLA encompass all hazardous wastes defined under the  
 9 Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. § 6901 et seq. (except petroleum  
 10 and natural gas)<sup>2</sup> as well as other pollutants and contaminants regulated by the Clean Air Act, the  
 11 Clean Water Act, and the Toxic Substances Control Act. 42 U.S.C. § 9601(14). Consequently, the  
 12 universe of CERCLA hazardous substances, while it includes most RCRA hazardous wastes, also  
 13 encompasses a significant amount of toxic and harmful materials other than RCRA hazardous  
 14 wastes. For example, § 6921(b)(3)(A) of RCRA excludes from the classification of hazardous  
 15 waste large volume hazardous materials like waste from the combustion of coal and oil; certain  
 16 kinds of mining waste; and cement kiln dust. 42 U.S.C. § 6921(b)(3)(A). These hazardous  
 17 materials are considered “hazardous substances” for the purposes of CERCLA—and their improper  
 18 disposal has generated a significant number of Superfund sites—but they are not regulated as  
 19 “hazardous waste” under RCRA.

20 To accomplish the goals described above, CERCLA provided the federal government with  
 21 new authority to respond to hazardous substance sites and created a \$1.6 billion trust fund to pay for  
 22 federal response actions. See U.S. EPA, “CERCLA: The Hazardous Waste Cleanup Program,”  
 23 2006 RCRA Orientation Manual, Chapter VI, Section 2 at VI-8 (Exhibit 1). The Superfund Trust

24  
 25 <sup>2</sup> RCRA hazardous wastes are defined at 42 U.S.C. § 6903(5). RCRA was enacted in 1976,  
 26 amending the Solid Waste Disposal Act, to regulate the operation of facilities that treat, store or  
 27 dispose of hazardous waste. The primary purpose of RCRA was to establish a cradle-to-grave  
 management scheme for hazardous waste facilities.

1 Fund was established primarily by tax assessments on crude oil and designated chemicals, as well as  
 2 an environmental tax on corporations. Id.

3 Shortly after passage, however, it became apparent that the demands of waste clean-up were  
 4 far more extensive than originally thought. Id. at VI-9. In 1986, Congress passed the Superfund  
 5 Amendments and Reauthorization Act (“SARA”), which not only authorized the Superfund  
 6 program for another five years, it also increased the trust fund from \$1.6 billion to \$8.5 billion.  
 7 SARA extended the taxing authority as well, but only until December 31, 1995. Id.

8 Yet funding problems persisted. While CERCLA requires that parties responsible for  
 9 pollution bear the cost of clean-up, often the parties responsible for Superfund sites include  
 10 businesses that have been liquidated through bankruptcy, restructured to limit liability for  
 11 environmental clean-up, or otherwise are financially unable to shoulder clean-up costs. In the past,  
 12 most of the costs for “orphan” Superfund sites—those sites for which responsible parties could not  
 13 be identified or were otherwise unable to pay for clean-up—were borne by the trust fund. However,  
 14 when authority to collect these taxes expired in 1995, it was not extended. Since 2000, the  
 15 Superfund program has increasingly relied on funds from general revenue appropriations. As a  
 16 result, funding for the program has decreased from \$1.9 billion to \$1.2 billion, in constant 2003  
 17 dollars, from fiscal year 1993 to fiscal year 2004. U.S. Government Accountability Office, GAO-  
 18 05-658, Environmental Liabilities: EPA Should Do More to Ensure That Liable Parties Meet Their  
 19 Cleanup Obligations, (hereinafter “2005 GAO Report”) at 8 (Exhibit 2); U.S. Government  
 20 Accountability Office, GAO-08-841R, Superfund: Funding and Reported Costs of Enforcement and  
 21 Administration Activities at 7 (Exhibit 3).

22 In spite of the decrease in available funds for clean-up, however, the number of Superfund  
 23 sites and the costs of their clean-up continue to grow. 2005 GAO Report at 8. In fact, the number  
 24 of sites on Superfund’s National Priorities List (“NPL”), which comprises the nation’s most  
 25 contaminated sites, keeps expanding.<sup>3</sup> Between 1983 and 2003, EPA added an average of 28 sites

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26 <sup>3</sup> There are currently over 1,250 sites on Superfund’s National Priority List. U.S. EPA, NPL Site  
 27 Totals by Status and Milestone,

annually to the NPL. U.S. Gen. Accounting Office, GAO-03-850, Superfund Program, Current Status and Future Fiscal Challenges, at 7 (Exhibit 4).

## II. THE ROLE OF FINANCIAL ASSURANCE

Both RCRA and CERCLA contain financial responsibility requirements to ensure that adequate funds are available to address closure and clean-up of facilities that handle hazardous materials. These financial assurance requirements “protect public health and the environment by promoting the proper and safe handling of hazardous materials and protecting against a liable party defaulting on closure or clean-up obligations.” U.S. EPA, Compliance and Enforcement National Priority: Financial Responsibility Under Environmental Laws 1 (2005) (Exhibit 5). Inadequate or lack of financial responsibility can result in EPA or State governments (and ultimately the taxpayer) funding expensive clean-ups and can “place the public at risk because of the potential financial inability to close or clean up the site.” Id. at 2.

According to EPA, “having the financial wherewithal to perform closure and/or cleanup is critical to protecting human health and the environment from toxic and hazardous waste and substances that are polluting the land, air, and water.” Id. (emphasis added) EPA explains that “financial responsibility requirements achieve this protection by: (1) promoting the proper handling of hazardous and toxic waste and substances; (2) ensuring that funds will be available to address contamination; (3) preventing the shifting of clean-up costs from the responsible party to the taxpayer or other parties; and (4) making facilities and land available to the public for reuse.” Id.

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<<http://www.epa.gov/superfund/sites/query/queryhtm/npltotal.htm>> (last visited August 6, 2008). This list represents the Superfund sites that EPA has determined present the highest risk to human health or the environment “among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories.” <<http://www.epa.gov/superfund/sites/npl/>> (last visited August 29, 2008). In addition, there are over 40,000 sites in EPA’s Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database. See <<http://www.epa.gov/enviro/html/cerclis/index.html>> (last visited August 6, 2008). Superfund sites, as defined by EPA are those “uncontrolled hazardous waste sites designated by the federal government to be cleaned up” <[http://www.epa.gov/enviro/html/data\\_source.html](http://www.epa.gov/enviro/html/data_source.html)> (last visited August 29, 2008).



A. RCRA Financial Assurance

In 1976, Congress first took steps to ensure the safe and timely closure and clean-up of hazardous waste treatment, storage and disposal facilities by requiring financial assurance under RCRA. 42 U.S.C. §§ 6924(a)(6), 6924(t). Pursuant to RCRA's statutory mandate, EPA, starting in 1981, promulgated financial assurance requirements applicable to hazardous waste facilities. 46 Fed Reg. 2851-66, 2877-88 (January 12, 1981) (codified as amended at 40 C.F.R. § 264.140-.151 and 40 C.F.R. § 265.140-.151). Examples of such mechanisms include trust funds, surety bonds, post-closure insurance, letters of credit and financial test/corporate guarantees.<sup>4</sup> Financial Assurance for Closure, 40 C.F.R. § 264.143 (2006). These RCRA regulations, however, only apply to facilities that treat, store or dispose of hazardous waste as defined by RCRA, and do not apply to facilities that generate or transport (but do not store, treat or dispose of) hazardous waste, or facilities that generate, transport, treat, store or dispose of the many dangerous substances that are not defined as RCRA hazardous waste, but which are classified as hazardous substances under CERCLA. For example, RCRA financial assurance requirements do not apply to hardrock mines and hazardous waste generators, even though such facilities are responsible for a large number of Superfund sites nationwide. 2005 GAO Report at 33-38.

Despite the limited scope of RCRA financial assurance regulations, EPA has determined that these regulations have indeed prevented hazardous waste treatment, storage and disposal facilities from being listed on the Superfund NPL. A 2007 Report by EPA's Office of Inspector General examined the extent to which RCRA facilities "pose a continuing burden to the Superfund

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<sup>4</sup> RCRA allows owners/operators of hazardous waste facilities to use any of five mechanisms to provide financial assurance based on the estimated cost of maintenance and monitoring activities during the post-closure period. These mechanisms include a trust fund (an agreement with a bank or other institution that acts as a trustee of payments made by the facility); surety bond (a contract with a surety company that guarantees payment for, or performance of, post-closure activities if the owner/operator is unable to do so); letter of credit (a letter issued by an authorized bank or other institution in which payment of post-closure costs is guaranteed); post-closure insurance (insurance to pay post-closure costs) and financial test/corporate guarantee (a method of demonstrating adequate resources to cover costs, through a combination of assets, net worth and net worth multipliers, financial ratios, and/or bond ratings.) See 2005 GAO Report at 40.



program,” U.S. EPA, Office of the Inspector General, Superfund’s Board of Directors Needs to Evaluate Actions to Improve the Superfund Program, Report No. 2007-P-00029 at 3 (Exhibit 6). EPA concluded that RCRA hazardous waste treatment, storage, and disposal facilities accounted for 27 percent of the NPL site clean-up costs accrued between FY 1981 and FY 2005, and EPA deemed this cost “not significant.” Id.

EPA considers financial assurance regulations an essential component of its hazardous waste compliance program, as evidenced by EPA’s 2003 “Enforcement Alert,” which specifically addresses RCRA financial assurance requirements. U.S. EPA, Office of Regulatory Enforcement, Enforcement Alert, Vol. 6, No. 2 (April 2003) (Exhibit 7). The Alert called financial assurance requirements a “fundamental compliance obligation” and stated the “failure to comply with financial assurance requirements puts human health and the environment at risk.” Id.

In addition, at least one court has recognized the important role played by financial assurance regulations to force waste-handling facilities to employ better operation and management practices. In Safety-Kleen, Inc., (Pinewood) v. Wyche, 274 F.3d 846 (4<sup>th</sup> Cir. 2001), the Court held that the South Carolina hazardous waste facility financial assurance regulations (equivalent to the federal RCRA regulations) were exempt from the federal bankruptcy law’s automatic stay because the requirements were part of the State’s “police and regulatory power.” Id. at 865. The Court of Appeals found that financial assurance regulations serve the primary purpose of deterring environmental misconduct by promoting the safer design and operation of hazardous waste facilities. The Court explained:

The incentive for safety is obvious: the availability and cost of a bond will be tied directly to the structural integrity of a facility and the soundness of its day-to-day operations. When the EPA promulgated its financial assurance regulations..., it spelled out how the regulations would promote environmental protection at active hazardous waste facilities. Specifically, the EPA emphasized that the financial assurance requirements would give landfill owners and operators “an incentive to locate, design, and operate facilities to minimize closure and post-closure costs” and to “improve operating procedures and reduce the risk of accidents.”

Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities; Financial Requirements, 47 Fed. Reg. 15032, 15044-45 (Apr. 7, 1982) ... To put it more bluntly, sloppy “design and operating

procedures ... are more likely to be avoided” with the financial assurance requirements and the resulting incentive to reduce bond costs.

Id. (emphasis added).

#### B. CERCLA Financial Assurance

In 1980, Congress sought to supplement the RCRA financial assurances requirements by establishing requirements in CERCLA that facilities involved with the production, transportation, treatment, storage or disposal of hazardous substances demonstrate financial responsibility sufficient to remedy any environmental damage caused by their operations. Specifically, section 108(b)(1) of CERCLA provides:

Beginning not earlier than five years after December 11, 1980, the President shall promulgate requirements (for facilities in addition to those under Subtitle C of the Solid Waste Disposal Act [citation omitted] and other Federal law) that classes of facilities establish and maintain evidence of financial responsibility consistent with the degree and duration of risk associated with the production, transportation, treatment, storage or disposal of hazardous substances.

42 U.S.C. § 9608(b)(1). Section 108(b)(1) also provides “[n]ot later than three years after December 11, 1980, the President shall identify those classes for which requirements will be first developed and publish notice of such identification in the Federal Register. 42 U.S.C. § 9608(b)(1). Lastly, section 108(b)(3) requires that “[r]egulations promulgated under this subsection shall incrementally impose financial responsibility requirements as quickly as can reasonably be achieved but in no event more than 4 years after the date of promulgation.” 42 U.S.C. § 9608(b)(3).

The objective of CERCLA’s financial assurance requirements was described by Congress:

[A] major goal of the financial responsibility requirements is to enlist insurers to provide additional policing and incentives to monitor the behavior of their insureds. . . . It is often policy terms and conditions, as well as inspection and rate-making, that form the basis of the insurer’s ability to influence the insured to act carefully and responsibly.

Senate Environment and Public Works Committee Report, 99 Cong. Senate Report 11 at 47 (1985). To date, however, neither EPA nor DOT have identified classes of facilities nor promulgated any financial assurance regulations. The failure of EPA and DOT to promulgate such regulations, as

required by CERCLA § 108(b), has resulted in a substantial number of generators, hazardous material facilities, and transporters operating without financial assurance, as described below.

C. The Gap in Financial Assurance Regulations

As noted, RCRA's financial assurance requirements do not apply to facilities that generate or transport hazardous waste or substances, nor do they apply to facilities that treat, store, dispose of or transport hazardous substances that are not RCRA hazardous wastes. Because no financial assurance requirements were ever promulgated under CERCLA, these generators and facilities are not subject to any overarching federal requirements to provide evidence of financial ability specifically to clean up any spill, accidental release or other contamination resulting from the generation or handling of hazardous substances.

The universe of industries not covered by RCRA's financial assurance requirements is immense. EPA has identified over 130,000 generators of hazardous waste and substances not subject to the RCRA requirements. U.S. Gen. Accounting Office, Report to Cong., GAO/RCED-88-2, Hazardous Waste: Issues Surrounding Insurance Availability (Oct. 1987) (Exhibit 8). The waste produced by such generators is prodigious. For example, mining activities (non-coal) in the United States are not covered by RCRA, because RCRA explicitly excludes mining waste from its definition of hazardous waste. 42 U.S.C. § 6921(b)(3)(A)(ii). Non-coal mining activities "produce between 1 and 2 billion tons of mine waste annually."<sup>5</sup> As EPA itself recognized, "[o]ver 130,000 of these noncoal mines are responsible for polluting over 3,400 miles of streams and over 440,000 acres of land. About seventy of these sites are on the National Priority List for Superfund remediation." Id. Other common facilities that generate or handle hazardous substances, and thus are not subject to RCRA's financial responsibility regulations, include hazardous waste recyclers, metal finishers, wood treatment facilities and dry cleaners. 2005 GAO Report at 34.

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<sup>5</sup> US EPA, Mine Waste Technology, <http://www.epa.gov/hardrockmining/pg.htm> (last visited August 5, 2008).

D. The Impact of the Failure to Promulgate Financial Assurance Regulations

1. *Inadequate Financial Assurance Regulations Exact a High Financial Toll*

The exorbitantly high cost of financing clean-up actions at sites where responsible parties are unable to pay has been an issue of great concern to Congress for many years. The significant drain on public funding has been the subject of numerous government reports. Within the last four years, no fewer than four separate reports have addressed the problem of Superfund funding shortfalls and the solution of financing clean-up of hazardous material sites through improved CERCLA financial responsibility requirements: (1) U.S. Government Accountability Office, GAO-05-658, Environmental Liabilities: EPA Should Do More to Ensure That Liable Parties Meet Their Cleanup Obligations (“2005 GAO Report”) (Exhibit 2); (2) U.S. EPA, Superfund: Building on the Past, Looking to the Future (Apr. 22, 2004), (hereinafter “Superfund 120-Day Study”) (Exhibit 9); (3) U.S. Government Accountability Office, GAO-05-377, Hardrock Mining: BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs (Exhibit 10); (4) Superfund Subcommittee of the National Advisory Council for Environmental Policy and Technology, Final Report (Apr. 12, 2004) (“NACEPT Report”) (Exhibit 11).

Each of these reports concludes that the price tag for the public is prohibitive when polluters cannot pay. According to the 2005 GAO Report, it will cost \$140 million, on average, to clean up each of the 142 largest Superfund sites, for a total of almost \$20 billion. *Id.* at 2. Significantly, the 2005 GAO Report notes that clean-ups at 60 of these “megasites”—where clean-up costs exceed \$50 million—are already being funded either wholly or partly by public funds. *Id.* The result is that the cost of investigation and clean-up at the “orphan” megasites listed on the NPL (i.e., those sites where the responsible parties are unable to fund investigation and clean-up) greatly exceeds EPA’s annual Superfund budget. In fact, the cost of cleaning up only the 60 orphan NPL sites identified above exceeds EPA’s entire annual budget by nearly 3 times. U.S. EPA, EPA-205-S-06-001, Budget 2007 US EPA Summary at v (Feb. 2006) (Exhibit 12). Given that the entire NPL encompasses more than 1,200 sites, the cost of cleaning up all the orphan sites may be many times this amount. 2005 GAO Report at 8.

2. *The Absence of Financial Assurance Regulations Threatens Human Health and the Environment*

A 2004 report published by EPA's Office of Inspector General found explicitly that inadequate funding reduced the effectiveness of Superfund clean-ups, in many cases leaving the public exposed to greater levels of hazardous substances. Specifically, the report found that in fiscal year 2003, a \$174.9 million funding shortfall "prevented EPA from beginning construction at all sites or providing additional funds needed to address sites in a manner believed necessary by regional officials." U.S. EPA, Office of Inspector General, Congressional Request on Funding Needs for Non-Federal Superfund Sites, Report No. 2004-P-00001 at 1 (January 7, 2004) (hereinafter "2004 OIG Report") (Exhibit 13) The 2004 OIG Report explained:

When funding is not sufficient, construction at National Priority List (NPL) sites cannot begin; cleanups are performed in less than an optimal manner; and/or activities are stretched over longer periods of time. As a result, total project costs may increase and actions needed to fully address the human health and environmental risk posed by the contaminants are delayed.

Id. at 4. The report described numerous Superfund sites throughout the U.S. where delays and reduction in the scope of clean-ups threatened or exposed people and the environment to hazardous substances.

In fact, the report identified 29 specific sites where clean-up work was delayed, scaled back or in other ways less than optimal because of funding shortfalls. For example, EPA Region 10 identified a shortfall in funding for the clean-up of the Bunker Hill Superfund Site in Northern Idaho and Eastern Washington. The report notes "[t]he impact of reduced funds for the Bunker Hill site is associated with risk to human health, particularly for young children and pregnant women, from lead contamination in a residential area." 2004 OIG Report at 8 (emphasis added). In EPA Region 5, three sites requiring Superfund clean-up actions were not sufficiently funded to mitigate the threat to public health and the environment, including the Circle Smelting Site where a time-critical removal action was necessary to protect the public from lead contamination. Id. at 5.

There are numerous other examples where delays in clean-up threaten health and the

environment. In March 2008, W.R. Grace entered into the single largest Superfund settlement in history, agreeing to pay \$250 million to clean up asbestos contamination from its mine in Libby, Montana, a site EPA calls “the worst environmental disaster in U.S. history.”<sup>6</sup> Asbestos contamination caused at least 200 deaths in Libby, and hundreds more residents suffer from fatal illnesses caused by asbestos exposure. *Id.* Yet W.R. Grace declared bankruptcy in 2001, shortly after the deadly situation came to light. 2005 GAO Report at 28. The company’s failure to honor its financial obligations has slowed clean-up of the town and increased threats to human health and the environment. Further, even the record-setting settlement does not come close to estimates of what it will cost to make the homes, schoolyards, and ball fields of Libby safe. Full clean-up of the town has been estimated at \$500 million. *Id.* The remainder of the costs will be borne by taxpayers, and clean-up is likely to fall behind given the funding shortfalls.

Huge funding shortfalls are not unusual. Asarco, a century-old mining and smelting company, is liable for the environmental clean-up of approximately 100 Superfund sites nationwide. Letter from Representative John Conyers, Chairman and Representative Lamar Smith, Ranking Member, U.S. House of Representatives, Committee on the Judiciary to Michael B. Mukasey, U.S. Attorney General (June 27, 2008) at 1 (Exhibit 14). Asarco filed for Chapter 11 bankruptcy in 2005. *Id.* While the bill to clean up Asarco’s environmental contamination is estimated at more than \$1 billion, it has been reported that Asarco agreed with EPA in 2003 to establish a \$100 million trust fund for environmental clean-up costs. *Id.* Similarly, Standard Chlorine Corporation (also known as Metachem) is responsible for major chemical releases, including PCBs and dioxin,<sup>7</sup> from its Delaware facility, which contaminated soil, sediment, an aquifer, and surface water. 2005 GAO Report at 38. EPA estimates that the total clean-up cost will be approximately \$100 million, but Metachem declared bankruptcy in 2002. *Id.*

<sup>6</sup> Andrew Schneider, W.R. Grace to pay record Superfund fine; but \$250 million may fall well short of Libby, Mont., cleanup cost, Seattle Post-Intelligencer, March 12, 2008, available at <[http://seattlepi.nwsource.com/national/354633\\_libby12.html](http://seattlepi.nwsource.com/national/354633_libby12.html)>.

<sup>7</sup> U.S. Environmental Protection Agency, Standard Chlorine of Delaware, Inc, Site Description, <<http://www.epa.gov/reg3hwmd/npl/DED041212473.htm>> (last visited September 4, 2008).



1 In light of these devastating disasters, EPA and other government oversight agencies have  
 2 consistently arrived at the same conclusion, study after study: the high cost of clean-up and the  
 3 dwindling resources of the Superfund program render it impossible to address all sites in a timely  
 4 and adequate manner. According to EPA's 2004 Superfund 120-Day Study, "[t]he Agency  
 5 currently has a backlog of sites that are ready for long term cleanup, but lacks adequate funding to  
 6 begin the remedial action." *Id.* at 9. In that same report, EPA admitted that "while EPA continues  
 7 to address immediate public health threats through its short-term, emergency cleanup program, the  
 8 Agency lacks adequate funds to address the growing number of sites that are ready for long term  
 9 cleanups each year." *Id.* (emphasis added). Given the hundreds of NPL sites awaiting clean-up and  
 10 the thousands of potential Superfund sites, the risk to health and the environment is substantial.

11 3. *The Lack of CERCLA Financial Assurance Requirements Has a Direct*  
 12 *Causal Connection to Funding Shortfalls, Injury to Human Health, and*  
 13 *Damage to the Environment*

14 The Government Accountability Office's 2005 report identified the direct causal connection  
 15 between the lack of sufficient funds for clean-up and the absence of CERCLA financial assurance  
 16 regulations. At the top of its "Recommendations for Executive Action," the 2005 GAO Report  
 17 advised that "the EPA Administrator should expeditiously implement the statutory mandate under  
 18 Superfund to develop financial assurance regulations for businesses handling hazardous substances.  
 19 *Id.* at 62. The 2005 GAO Report explained:

20 The need for EPA to fully use its existing authorities to execute the 'polluter pays'  
 21 principle underlying the Superfund and RCRA laws is even more compelling  
 22 today than it was during the 1980s and 1990s when corporate taxes ... provided  
 23 about \$1 billion a year for Superfund cleanups. Now, without revenue from  
 24 Superfund taxes, the cleanup burden has increasingly shifted to the general  
 25 public—and at a time when large federal deficits are likely to constrain EPA's  
 26 ability to obtain such funding for these cleanups. In addition, over time,  
 27 businesses have become more sophisticated in using the limited liability principle  
 28 to protect their assets by separating them from their liabilities. The result is that  
 businesses of all sizes can easily limit the amounts they may be required to pay  
 for environmental cleanups under Superfund and RCRA.

Collectively, these factors present serious challenges to EPA in attempting to  
 enforce environmental laws and to ensure that polluters pay for cleanups. ...

These challenges can seriously hamper EPA's ability to achieve its primary mission of protecting human health and the environment because they present formidable obstacles to obtaining the funding needed for cleanups. ... Thus, we believe it is imperative for EPA to increase its focus on financial management and to fully use its existing authorities to better ensure that those businesses that cause pollution also pay to have their contaminated sites cleaned up.

2005 GAO Report at 59 (emphasis added.).

Lastly, in 2006, the GAO's Director of Natural Resources and Development, John B. Stephenson, testified before the Senate Committee on Environment and Public Works and reiterated that EPA could do a better job of ensuring that high-risk companies meet their clean-up obligations by using existing authorities under CERCLA. Stephenson stated

Most significantly, EPA has not implemented a 1980 statutory mandate under Superfund to require businesses handling hazardous substances to provide the agency evidence of their ability to pay to clean up contamination that could result from their activities.

John B. Stephenson, Testimony Before the Committee on Environment and Public Works, U.S. Senate, Environmental Liabilities: Hardrock Mining Cleanup Obligations, 2006 (emphasis added) (Exhibit 15). The Director concluded:

By its inaction on the Superfund mandate ..., EPA has continued to expose the Superfund program, and ultimately the U.S. taxpayers, to potentially billions of dollars in cleanup costs for facilities that currently are not required to have financial assurances for cleanup costs.

Id. at 6.

#### STANDARD OF REVIEW

A motion for summary judgment should be granted if the moving party shows "that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c).



## ARGUMENT

I. DEFENDANTS' FAILURE TO COMPLY WITH CERCLA § 108(B)(1) CONSTITUTES FAILURE TO PERFORM A NONDISCRETIONARY ACT OR DUTY

CERCLA allows citizens to bring civil actions against defendants for "failure . . . to perform any act or duty under this chapter . . . which is not discretionary." 42 U.S.C. § 9659(a)(2). It is undisputed that none of the duties imposed by § 108(b) have been carried out. See Answer, ¶ 2. ("Defendants admit that no regulations have been proposed, promulgated, or implemented pursuant to section 108(b) of CERCLA . . .") As discussed below, defendants' admitted failure to carry out the duties imposed by CERCLA § 108(b) is actionable under CERCLA's citizen suit provision.

A. CERCLA § 108(b)(1) Requirement to Identify and Publish Notice of Classes of Facilities for Which Financial Assurance Requirements Will First Be Developed Is Nondiscretionary.

A duty is nondiscretionary where Congress has deprived the agency of discretion over the timing of its performance, such as by establishing a date-certain deadline. Our Children's Earth Foundation v. U.S. E.P.A., 527 F.3d 842, 851 (9<sup>th</sup> Cir. 2008); Sierra Club v. Thomas, 828 F.2d 783, 790-92 (D.C. Cir. 1987); Nat'l Res. Def. Council v. Train, 510 F.2d 692, 712 (D.C. Cir. 1974). In the present case, Congress established such a date-certain deadline for the identification and publication of classes of facilities for which financial assurance requirements will first be developed: CERCLA § 108(b)(1) reads, in part, "[n]ot later than three years after December 11, 1980, the President shall identify those classes for which requirements will be first developed and publish notice of such identification in the Federal Register." 42 U.S.C. § 9608(b)(1) (emphasis added).

To date, defendants have not published this notice. See Answer ¶ 22 ("Defendants admit that regulations for classes of facilities pursuant to section 108(b)(1) of CERCLA have not been promulgated.") The only federal register notice published by EPA concerning section 108(b) was a single notice published on May 13, 1983 in which EPA acknowledged its mandatory duty to publish a notice identifying classes of facilities and invited comments on issues raised by the CERCLA

§ 108(b)(1) requirement.<sup>8</sup> 48 Fed. Reg. 21598 (1983). EPA reiterated its mandatory obligations in the 1983 notice:

Section 108(b)(1) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (“CERCLA” or “the Act”) requires that, not earlier than December 11, 1985, the President begin to promulgate financial responsibility requirements for classes of facilities involved in the production, transportation, treatment, storage and disposal of hazardous substances. Hazardous substances, as defined in the Act, include not only hazardous wastes identified or listed under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), but also a variety of substances regulated under the Clean Air Act, the Clean Water Act, and the Toxic Substances Control Act. A hazardous substance may be flammable, corrosive or explosive; it may cause cancer, physical disability or serious illness in people; it may cause damage to animals, plants, or other parts of the environment.

*Id.* at 21598. Despite soliciting comments that appeared to be intended to inform a § 108(b) rulemaking, EPA never issued any proposed or final rule, or any other notice, concerning the issues identified in the 1983 notice.

Defendants’ failure to comply with the requirement in 42 U.S.C. § 9608(b)(1) to identify classes and publish notice of such identification constitutes a “failure of the President or of such other officer to perform any act or duty under this chapter . . . which is not discretionary with the President or such other officer” within the meaning of section 42 U.S.C. § 9659(a)(2). Plaintiffs are entitled to summary judgment on their claim that defendants are in violation of CERCLA.

**B. CERCLA § 108(b)(1) & (3) Duties to Promulgate and Implement Financial Assurances Requirements Are Nondiscretionary**

CERCLA § 108(b) also imposes a nondiscretionary duty on defendants to promulgate financial assurances requirements and to implement them as quickly as possible. Unlike the

---

<sup>8</sup> EPA acknowledged that section 108(b)(1) “requires that the President publish a notice in the Federal Register by December 11, 1983, identifying those classes of facilities for which requirements will be first developed.” In addition, the notice solicited comments on the following four issues: (1) what sources of data exist to help identify types of facilities involved in the production, treatment, storage, or disposal of hazardous substances; (2) how should the population of activities be divided into classes; (3) what constitutes risk or injury; and (4) how should “risk of injury” be used to rank classes of facilities.” 48 Fed. Reg. 21598-21599 (1983).

obligation to publish classes of facilities that will be subject to such regulations, these obligations are not subject to date-certain deadlines. Congress required that regulations be promulgated no earlier than December 11, 1985, and that such regulations impose financial responsibility requirements “as quickly as can be achieved but in no event more than four years after the date of promulgation.” 42 U.S.C. § 9608(b)(1), (3). There is no dispute that these duties have not been carried out. See Answer ¶¶ 2, 38. Although not subject to a clear, date-certain deadline, these obligations are equally nondiscretionary and hence actionable under CERCLA’s citizen suit provision.

*1. CERCLA § 108(b)(1)’s Use of “Shall” Indicates Financial Assurances Requirements Are Nondiscretionary*

It is well established that “[w]hen Congress specifies an obligation and uses the word ‘shall,’ this denomination usually connotes a mandatory command.” Our Children’s Earth Foundation, 527 F.3d at 847 (citing Alabama v. Bozeman, 533 U.S. 146, 153 (2001)) (emphasis added). The court in Our Children’s Earth Foundation, relying on the repeated use of the word “shall” in statutory provisions, found that CWA provisions established a mandatory duty to employ technology-based criteria.

When the statutory requirement includes the word “shall,” the absence of an explicit deadline is not an indication that a duty is discretionary. In Sierra Club v. Johnson, 500 F. Supp. 2d 936 (N.D. Ill. 2007), for example, EPA claimed that a Clean Air Act permitting provision was discretionary because the provision did not set a specific time by which EPA must issue or deny the permit. The permitting provision reads, “the Administrator shall issue or deny the permit in accordance with the requirements of this subchapter.” 42 U.S.C. § 7661d(c). Relying on use of “shall” in the permitting provision, the court concluded the permitting provision was nondiscretionary. Sierra Club v. Johnson, 500 F. Supp. 2d at 937-38. The court continued:

Although we cannot know whether Congress intended for the permit to be issued or denied within a day, a week, or a year, we believe that ‘shall’ does not mean ‘whenever,’ and believe the statute is meaningless without a time frame. We therefore hold that whatever the time frame is, the Administrator is well past the time limit.

1 Id.; see also Moses Lake v. U.S., 416 F. Supp. 2d 1015, 1026 (E.D. Wash., 2005) (holding “shall”  
2 command in CERCLA § 120(f) to be nondiscretionary).

3 CERCLA § 108(b)(1) states that “[b]eginning not earlier than [December 11, 1985] the  
4 President shall promulgate requirements.” 42 U.S.C. § 9608(b)(1) (emphasis added). CERCLA  
5 § 108(b)(3) states that these regulations “shall . . . impose financial responsibility requirements as  
6 quickly as can be reasonably achieved but in no event more than four years after the date of  
7 promulgation.” 42 U.S.C. § 9608(b)(3) (emphasis added). As in the cases cited above, the absence  
8 of a date-certain deadline in the statute does not render the duty simply discretionary. The use of the  
9 word “shall” in CERCLA § 108(b)(1) & (3) does not mean “whenever.” Sierra Club v. Johnson,  
10 500 F. Supp. 2d at 938. Given that nearly 23 years have passed since this duty was imposed, it  
11 certainly does not mean “never.” Congress imposed a nondiscretionary duty on EPA to promulgate  
12 and impose financial responsibility regulations starting in 1985. EPA’s acknowledged failure to  
13 carry out those duties is actionable under CERCLA’s citizen suit provision.

14 2. *CERCLA § 108(b)’s Use of Both “May” and “Shall” Indicates*  
15 *Congressional Intent to Create Both Discretionary and Nondiscretionary*  
16 *Duties and Clarifies the Nondiscretionary Nature of CERCLA § 108(b)(1)*  
*and (3)*

17 Considering CERCLA § 108(b) as a whole, it is clear that Congress deliberately created  
18 nondiscretionary and discretionary duties in CERCLA § 108(b)(1) & (3) and CERCLA § 108(b)(2),  
19 respectively, by the specific use of “shall” and alternately, “may” and other qualifying terms. The  
20 Supreme Court noted that “[t]he word ‘shall’ is ordinarily ‘the language of command’.” Escoe v.  
21 Zerbst, 295 U.S. 490, 493 (1935). According to the Court, “when the same Rule uses both ‘may’  
22 and ‘shall,’ the normal inference is that each is used in its usual sense—the one act being  
23 permissive, the other mandatory.” Id.; Fortney v. United States, 59 F.3d 117, 120 (9<sup>th</sup> Cir. 1995)  
24 (“Congress is presumed to act intentionally and purposely when it includes language in one section  
25 but omits it in another.”) (quotations and citations omitted); see also Lopez v. Davis, 531 U.S. 230,  
26 241 (2001) (contrasting use of “may” and “shall” within separate provisions of the same statute);  
27 compare Center for Biological Diversity v. U.S. Fish and Wildlife Service, 450 F. 3d 930, 935 (9<sup>th</sup>

1 Cir. 2006) (no mandatory duty in the Endangered Species Act where the statute directed that agency  
2 “may” revise critical habitat designations “from time-to-time ... as appropriate.”)

3 In CERCLA § 108(b)(1), Congress established three clear nondiscretionary duties: (1) “the  
4 President shall promulgate requirements .... that classes of facilities establish and maintain evidence  
5 of financial responsibility;” (2) “the President shall identify [high risk classes]... and publish notice  
6 of such identification;” and (3) “[p]riority shall be accorded to those classes of facilities, owners and  
7 operators which the President determines present the highest level of risk.” 42 U.S.C. § 9608(b)(1)  
8 (emphasis added). Similarly, in CERCLA § 108(b)(3), the statute requires that “regulations  
9 promulgated ... shall incrementally impose financial responsibility requirements ... in no event  
10 more than 4 years after the date of promulgation.” 42 U.S.C. § 9608(b)(3) (emphasis added). In  
11 contrast, many of the requirements found in CERCLA § 108(b)(2) are discretionary, as evidenced  
12 by the use of “may” and other qualifying terms. For example, CERCLA § 108(b)(2) states that “the  
13 level of financial responsibility shall be initially established, and, when necessary adjusted to protect  
14 against the level of risk which the President in his discretion believes is appropriate,” and “financial  
15 responsibility may be established by any one or any combination of the following [mechanisms].”  
16 42 U.S.C. § 9608(b)(2) (emphasis added).

17 As a simple matter of statutory construction, in light of the statute’s use of “shall” and  
18 “may” in the same section, customary meaning must be accorded to the use of “shall” in CERCLA  
19 § 108(b)(1). Indeed, in its ruling on the motion to dismiss filed in this very case, this Court  
20 recognized that courts will rely on the customary meaning of “may” and “shall” in the absence of  
21 clear legislative history to the contrary. Sierra Club v. Johnson, 2008 WL 2873263 (N.D. Cal. July  
22 24, 2008), at \*4 (“May is not generally considered to mean shall unless the legislative history so  
23 indicates.”) Id. The plain juxtaposition of mandatory and qualified duties within the same statutory  
24 provision indicates further that Congress intended that the § 108(b) duties be considered  
25 nondiscretionary.

3. *The Nondiscretionary Nature of § 108(b) Can Be Inferred From CERCLA's Structure and Legislative History*

A nondiscretionary duty may also be inferred from a statute as a whole, Katie John v. U.S., 247 F.3d 1032, 1039 (9<sup>th</sup> Cir. 2001), a statute's legislative history, or "[t]he interrelationship of sections." NRDC v. Train, 510 F.2d at 706-07; Sierra Club v. Thomas, 828 F.2d at 791-92. In NRDC v. Train, 510 F.2d at 706, the EPA argued that because § 304(b)(1)(A) of the Clean Water Act did not include an explicit date-certain deadline, the statute granted the agency discretion to determine when point source discharge guidelines should be issued. The court disagreed. "The [Clean Water] Act's text and its legislative history make clear that . . . the section 304(b)(1) guidelines . . . were to be developed prior to the issuance of permits." Id. at 708. Because the prior establishment of § 304(b)(1) guidelines were necessary to develop permits, and the Act required issuance of permits by December 31, 1974, the court reasoned that, while Congress did not specify a deadline for EPA to carry out its § 304(b)(1) duties, Congress clearly intended EPA to establish § 304(b)(1) guidelines prior to December 31, 1974. Id. at 708-09.

The nondiscretionary nature of EPA's requirement to promulgate financial assurance regulations is clear when read in conjunction with the statute's alternative means of funding site clean-ups. When Congress established the Superfund trust fund, revenue sources included a tax on crude oil, a tax on hazardous chemicals, and a corporate environmental tax. Pub. L. No. 96-510, 94 Stat. 2797 (1980). From the time of the Superfund Reauthorization in 1986 to 1995, Superfund was financed largely through these sources. Salvatore Lazzari, Taxes to Finance Superfund, Cong. Res. Serv., Rep. No. 96-774.<sup>9</sup> When Congress created the fund, however, these revenue sources were set to expire on September 30, 1985. Pub. L. No. 96-510, § 211(a), 94 Stat. 2797 (1980).<sup>10</sup> Although Congress did not set a date-certain deadline for the promulgation and implementation of financial

<sup>9</sup> From 1991 to 1995, these three sources accounted for 79% of Superfund revenue, Mark Reisch, Superfund: An Overview, Cong. Res. Serv., January 2, 1999, available at <[http://www.policyalmanac.org/environment/archive/crs\\_superfund.shtml](http://www.policyalmanac.org/environment/archive/crs_superfund.shtml)>.

<sup>10</sup> The taxes were later extended to Dec. 31, 1991, Pub. L. No. 99-499, § 511(a), 100 Stat. 1760, 1761 (1986); and then to Dec. 31, 1995, Pub. L. No. 101-508, § 11231(a)(1)(B), 104 Stat. 1388-445 (1990).



1 assurances requirements, Congress intended these requirements to be implemented before the  
 2 Superfund Trust Fund possessed insufficient funds to cover remediation costs. In fact, when these  
 3 taxes were first extended under the Superfund Amendments and Reauthorization Act of 1986, the  
 4 deadline in CERCLA § 108(b)(3) for the implementation of financial assurances requirements was  
 5 moved up. Pub. L. No. 99-499, § 108(b), 100 Stat 1613 (1986) (replacing “over a period of not less  
 6 than three and no more than six years” with the tighter deadline of “as quickly as can reasonably be  
 7 achieved but in no event more than 4 years after the date of promulgation”).

8 Secondly, legislative history also suggests Congress’ assumption when enacting CERCLA  
 9 was that, absent a statutorily mandated delay, the defendants would promulgate financial assurances  
 10 requirements sooner than December 11, 1985. CERCLA § 108(b)(1) states “[b]eginning not earlier  
 11 than five years after December 11, 1980, the President shall promulgate requirements,” because  
 12 Congress wanted to ensure that financial assurances requirements did not come into effect until  
 13 insurers had adequate time to develop hazardous waste insurance programs. 42 U.S.C. § 9608(b)(1)  
 14 (emphasis added). According to the 96<sup>th</sup> Congress Senate Environment and Public Works  
 15 Committee, CERCLA § 108:

16 provides for a delay of five years from the date of enactment before the financial  
 17 responsibility requirements for facilities would be promulgated. . . . The purpose  
 18 of this approach is to allow time for the accumulation of information while  
 19 keeping this market open to commercial insurers. There will be five years in  
 which claims experience can be built up, then another three-year period in which  
 insurers can gradually enter the market.

20 S. Rep. No. 96-848, at 92-93 (1980). Thus the legislative history provides a clear and specific  
 21 reason for the delayed deadline, “to avoid severe dislocations and unwarranted intermodal  
 22 transportation shifts,” and indicates that this delay was not meant to be indefinite. Id.

## 23 CONCLUSION

24 Financial assurance rules require potential polluters to demonstrate that they have the  
 25 resources to correct any environmental damage that may be caused by their operations. Such  
 26 responsibility is a fundamental tenet of the federal Superfund program. Defendants’ failure to  
 27

1 comply with CERCLA § 108(b)'s mandate to promulgate such regulations constitutes failure to  
2 perform a congressionally mandated nondiscretionary act or duty, which provides a basis for a  
3 citizen suit under CERCLA § 310. Defendants' failure to act runs counter to Congress's intent to  
4 protect human health and the environment.

5 Respectfully submitted this 4<sup>th</sup> day of September, 2008.

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# **EXHIBIT 1**



# RCRA

## Orientation Manual 2006

### Resource Conservation and Recovery Act

Promoting Recycling and eCycling

Reducing Priority Chemicals

Forming Partnerships

Managing Waste

Reusing Industrial Materials

Preventing Waste



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# CHAPTER VI

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## OTHER ENVIRONMENTAL STATUTES

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## OVERVIEW

Congress has passed many environmental laws to address releases, or threats of releases, of hazardous constituents. An understanding of these laws is necessary to understand how RCRA fits into the national environmental protection system. Each environmental statute has its own particular focus, whether it is controlling the levels of pollutants introduced into a single environmental medium (i.e., air, soil, or water) or addressing a specific area of concern, such as pesticides or waste cleanup.

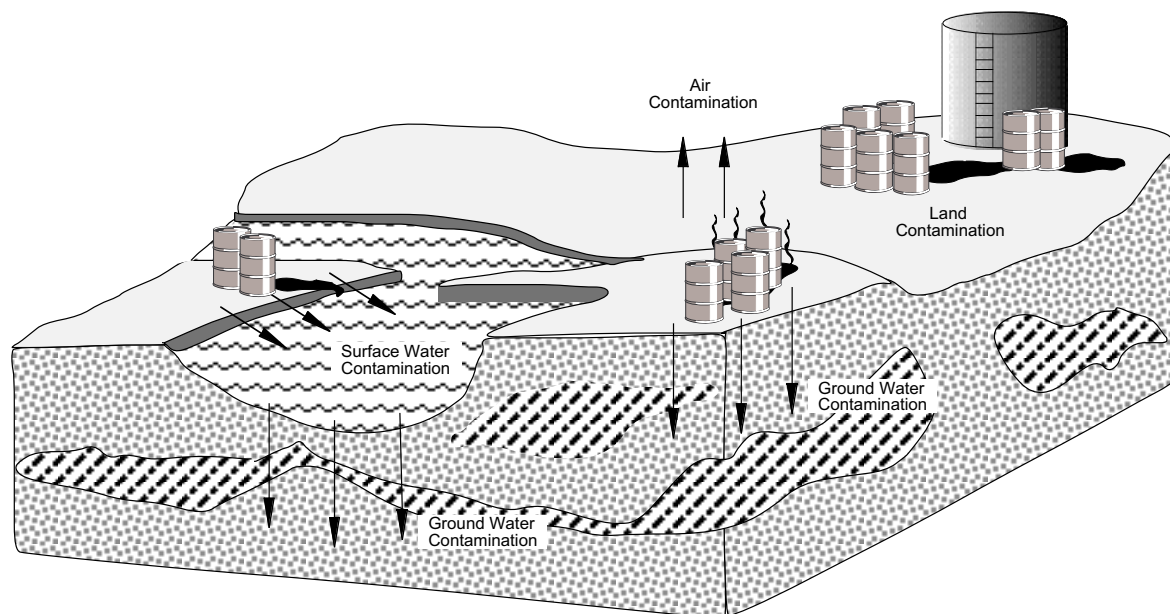
The media-, practice-, and chemical-specific boundaries established in the nation's environmental statutes are often arbitrary. Many different types of practices may be responsible for the release into the environment of the same contaminant. Moreover, individual contaminants are not confined to specific media (see Figure VI-1). Volatile organic compounds, such as benzene or toluene can be released into and contaminate the air, soil, and water. Additionally, uncontrolled pollutants may travel long distances by natural means, and they may change physically, affecting multiple media. Therefore, a media- or contaminant-specific approach cannot

fully address the magnitude and complexities of the waste management problem. This section introduces each of these environmental protection statutes and highlights their differences from RCRA.

Many of these statutes interact closely and even overlap with RCRA. In order to avoid overregulation of industry and coordinate environmental protection laws, Congress required that EPA, when promulgating environmental regulations, ensure consistency with and avoid duplication of regulatory provisions promulgated under other environmental statutes.

One statute in particular, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund, is closely aligned with RCRA. Both programs are similar in that their primary purpose is to protect human health and the environment from the dangers of hazardous waste. However, these statutes address the hazardous waste problem from two fundamentally different approaches:

- RCRA has a pollution prevention regulatory focus which encourages waste reduction and controls waste from the moment of generation until final disposal
- CERCLA has a response focus. Whenever there has been a breakdown in the waste management system (e.g., a release or a potential threat of a release of a hazardous substance, pollutant, or contaminant), CERCLA authorizes cleanup actions.

**Figure VI-1: Multi-Exposure Pathways**

Considering the close relationship and similarities between RCRA and CERCLA, this chapter examines the CERCLA regulatory program and its interaction with RCRA.

This chapter consists of two parts:

- **Legislative Framework for Addressing Hazardous Waste Problems** — Outlines the environmental statutes designed to protect human health and the environment from exposure to hazardous waste and contaminants and highlights their major interactions with RCRA
- **Superfund: The Hazardous Waste Cleanup Program** — Focuses on one crucial aspect of this legislative framework, the CERCLA hazardous waste cleanup program and its interactions with RCRA.

# LEGISLATIVE FRAMEWORK FOR ADDRESSING HAZARDOUS WASTE PROBLEMS

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## OVERVIEW

The legislation that serves as the basis for managing hazardous wastes can be divided into two categories:

- Media-specific statutes that limit and monitor the amount of pollutants introduced into the air, waterways, oceans, and drinking water
- Other statutes that directly limit the production, rather than the release, of chemical substances and products that may contribute to the nation's wastes.

## ENVIRONMENTAL STATUTES

In order to adequately protect human health and the environment from exposure to hazardous waste and contaminants, Congress enacted several regulatory programs to protect the nation's air and water resources, as well as ensure the safety of public health.

### ■ Clean Air Act

The **Clean Air Act** limits the emission of pollutants into the atmosphere. Such pollutants include: sulfur dioxide, particulate matter, nitrogen dioxide, carbon monoxide, ozone, and lead. EPA established the **National Ambient Air Quality Standards** (NAAQS). Congress also mandated that CAA control emissions from specific industrial sources. Using this statutory authority, EPA designated hazardous air pollutants and set **National Emission Standards for Hazardous Air Pollutants** (NESHAPs). The states have primary responsibility for implementing both the NAAQS and NESHAPs requirements.

### ■ Clean Water Act

The **Clean Water Act** (CWA) imposes pollutant limitations for all discharges of wastewater from identifiable ("point") sources into the nation's waterways. These discharges are defined as either direct discharges, indirect discharges, or zero discharges.



**Direct discharges** are discharges from “point sources” into surface water pursuant to a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits limit the permissible concentration of toxic constituents or conventional pollutants in effluents discharged to a waterway.

Under **indirect discharges**, the wastewater is first sent to a publicly owned treatment works (POTW), and then after treatment by the POTW, discharged pursuant to an NPDES permit. Under these requirements, the generator of the wastes cannot simply transfer the waste materials to a POTW. Rather, the wastes must satisfy applicable treatment and toxic control requirements known as pretreatment standards, where they exist. POTWs that receive hazardous wastes for treatment are also subject to certain RCRA permit-by-rule requirements (as discussed in Chapter III), and remain subject to RCRA corrective action.

**Zero discharges** mean that the wastewater is not being discharged to a navigable water, but rather is being land disposed (e.g., through spray irrigation) or are disposed by underground injection. Zero discharge facilities are subject to federal or state regulatory limitations that are as strict as those that apply to direct and indirect dischargers.

CWA also includes provisions intended to prevent oil spills into the navigable waters of the United States. These **Spill Prevention, Control, and Countermeasures** (SPCC) regulations establish spill prevention procedures and equipment requirements for nontransportation-related facilities with certain aboveground or underground oil storage capacities that could reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines.

## ■ Safe Drinking Water Act

The **Safe Drinking Water Act** (SDWA) protects the nation’s drinking water supply by establishing national drinking water standards (MCLs or specific treatment techniques), and by regulating underground injection control (UIC) wells. The UIC program bans some types of underground disposal of RCRA hazardous wastes. With some exceptions,

other materials cannot be injected underground without a UIC permit.

## ■ Emergency Planning and Community Right-to-Know Act

Congress amended CERCLA in 1986 with the enactment of the **Superfund Amendments and Reauthorization Act** (SARA). These amendments improved the Superfund program and added an important section that focused on strengthening the rights of citizens and communities in the face of potential hazardous substance emergencies. This section, SARA Title III, or the **Emergency Planning and Community Right-to-Know Act** (EPCRA), was enacted in response to the more than 2,000 deaths caused by the release of a toxic chemical in Bhopal, India.

EPCRA is intended to help communities prepare to respond in the event of a chemical emergency, and to increase the public’s knowledge of the presence and threat of hazardous chemicals. To this end, EPCRA requires the establishment of state and local committees to prepare communities for potential chemical emergencies. The focus of the preparation is a community emergency response plan that must: 1) identify the sources of potential emergencies; 2) develop procedures for responding to emergencies; and 3) designate who will coordinate the emergency response.

EPCRA also requires facilities to notify the appropriate state and local authorities if releases of certain chemicals occur. Facilities must also compile specific information about hazardous chemicals they have on site and the threats posed by those substances. Some of this information must be provided to state and local authorities. More specific data must be made available upon request from those authorities or from the general public.

## ■ Federal Insecticide, Fungicide, and Rodenticide Act

The **Federal Insecticide, Fungicide, and Rodenticide Act** (FIFRA) provides procedures for the registration of pesticide products to control their introduction into the marketplace. As such, its

regulatory focus is different from most of the statutes discussed in this chapter. While the other statutes attempt to minimize and manage waste by-products at the end of the industrial process, FIFRA controls whether (and how) certain products are manufactured or sold in the first place.

FIFRA imposes a system of pesticide product registrations. Such requirements include pre-market review of



potential health and environmental effects before a pesticide can be introduced in the United States, reregistration of products introduced prior to the enactment of FIFRA to assess their safety in light of current standards, and classification of pesticides for restricted or general use. Restricted products can be used only by those whose competence has been certified by a state program.

## ■ Toxic Substances Control Act

The primary focus of the **Toxic Substances Control Act** (TSCA) is similar to that of FIFRA in that the statute provides authorities to control the manufacture and sale of certain chemical substances. These requirements include testing of chemicals that are currently in commercial production or use, pre-market screening and regulatory tracking of new chemical products, and controlling unreasonable risks once a chemical substance is determined to have an adverse effect on health or the environment. TSCA controls on such unreasonable risks includes prohibiting the manufacture or certain uses of the chemical, requiring labeling, limiting volume of production or concentration, requiring replacement or repurchase of products, and controlling disposal methods.

## ■ Marine Protection, Research, and Sanctuaries Act

The **Marine Protection, Research, and Sanctuaries Act** (MPRSA) requires a permit for any

material that is transported from a U.S. port or by a U.S. vessel for deposition at sea.

There are two major areas of overlap between MPRSA and RCRA. MPRSA prevents waste from a RCRA generator or TSDF from being deposited into the ocean, except in accordance with a separate MPRSA permit. In addition, dredged materials subject to the requirement of a MPRSA §103 permit are not considered hazardous wastes under RCRA.

## ■ Occupational Safety and Health Act

The mission of the **Occupational Safety and Health Act** (OSHA) is to save lives, prevent injuries, and protect the health of employees in the workplace. OSHA accomplishes these goals through several regulatory requirements including the **Hazard Communication Standard** (HCS), and the **Hazardous Waste Operations and Emergency Response Worker Protection Standard** (HAZWOPER).

The HCS was promulgated to provide workers with access to information about the hazards and identities of the chemicals they are exposed to while working, as well as the measures they can take to protect themselves.

OSHA's HCS requires employers to establish hazard communication programs to transmit



information on the hazards of chemicals to their employees by means of labels on containers, material safety data sheets, and training programs.

The HAZWOPER was developed to protect the health and safety of workers engaged in operations at hazardous waste sites, hazardous waste treatment facilities, and emergency response locations. HAZWOPER covers issues such as training, medical surveillance, and maximum exposure limits.



## SUMMARY

Several major environmental statutes work together to address hazardous waste problems. These include media-specific statutes that limit the amount of waste released into a particular environmental medium, and other statutes that directly control the production of certain products, and protect workers managing hazardous wastes. These statutes are:

- Clean Air Act
- Clean Water Act
- Safe Drinking Water Act
- Emergency Planning and Community Right-to-Know Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Toxic Substances Control Act
- Marine Protection, Research, and Sanctuaries Act
- Occupational Safety and Health Act.

## ADDITIONAL RESOURCES

Full-text versions of the major environmental laws administered by EPA can be found at [www.epa.gov/epahome/laws.htm](http://www.epa.gov/epahome/laws.htm).

# CERCLA: THE HAZARDOUS WASTE CLEANUP PROGRAM

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## OVERVIEW

This chapter focuses on the **Comprehensive Environmental Response, Compensation, and Liability Act** (CERCLA), which is a central part of the legislative framework for environmental protection. CERCLA is also commonly known as **Superfund**.

Whereas RCRA is a proactive program that regulates how wastes should be managed to avoid potential threats to human health and the environment, CERCLA is designed to remedy threats to human health and the environment from unexpected releases and historical mistakes in hazardous waste management. More specifically, RCRA authorizes a general regulatory program to manage all hazardous wastes from cradle to grave (i.e., from generation to ultimate disposal), while CERCLA authorizes a number of government

actions to remedy the conditions that could result in a release or the effects of a release itself. Both RCRA and CERCLA authorize EPA to act in the event of an imminent hazard.

This chapter discusses why CERCLA was enacted, summarizes the Law, and examines the major areas where the CERCLA and RCRA programs interact.

### RCRA VS. CERCLA

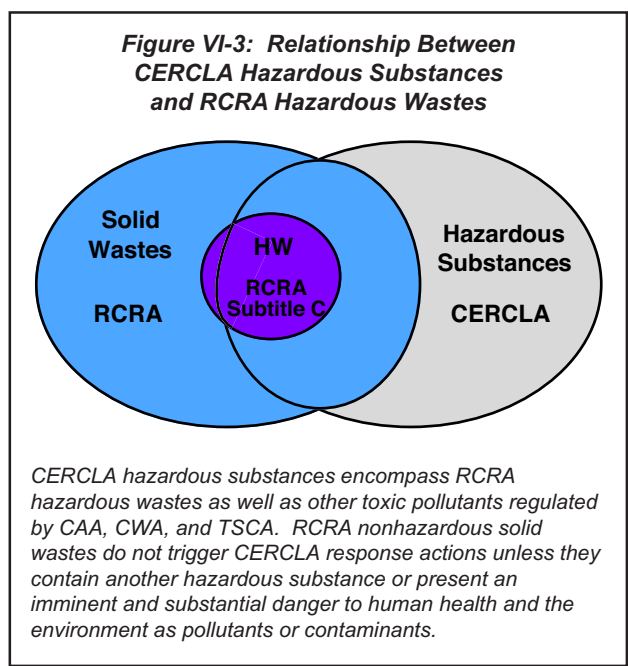
RCRA regulates how wastes should be managed to avoid potential threats to human health and the environment. CERCLA, on the other hand, comes into play when mismanagement occurs or has occurred (i.e., when there has been a release or a substantial threat of a release in the environment of a hazardous substance or of a pollutant or contaminant that presents an imminent and substantial threat to human health).

## DEFINITIONS

RCRA and CERCLA both address hazards to the environment. However, CERCLA is a more comprehensive statute. CERCLA hazardous substances encompass RCRA hazardous wastes, as well as other toxic pollutants regulated by the Clean Air Act (CAA), the Clean Water Act (CWA), and the Toxic Substance Control Act (TSCA). Thus, all RCRA hazardous wastes are regulated as CERCLA hazardous substances, and releases of hazardous wastes may trigger CERCLA release notification requirements or response actions. RCRA nonhazardous solid wastes, on the other hand, do not trigger CERCLA response actions unless they

contain another hazardous substance or present an imminent and substantial danger as pollutants or contaminants (see Figure VI-3).

In addition to hazardous substances, CERCLA authorizes EPA to respond to releases and potential releases of **pollutants or contaminants**, which are broadly defined to include any substance that is



reasonably anticipated to cause illness or deformation in any organism. All three definitions specifically exclude petroleum and natural gas.

## HISTORY AND PURPOSE OF CERCLA

CERCLA was established in response to the discovery, in the late 1970s, of a large number of abandoned, leaking, hazardous waste dumps that were a threat to human health and the environment. One of the best known examples is Love Canal (Niagara Falls, New York), where a chemical company buried large amounts of hazardous waste in an abandoned canal. In the mid-1950s, the company capped the canal with clay and soil and sold the land to the city of Niagara Falls for development.

In the 1970s, an unusual number of community residents developed serious health problems. Moreover, the residents complained of noxious fumes and chemicals oozing out of the ground. Subsequent government investigations found extensive contamination of the area, including groundwater supplies. In 1978, President Carter declared Love Canal a federal disaster area, and most of the residents in the area around the site were relocated.

At the time, declaring the site a federal disaster area was the only viable option available to the federal government. RCRA could not provide relief because the problem did not involve the current or future management of wastes. Legal actions against the responsible parties could not offer a timely solution because such action was time consuming and costly. In addition, subsequent investigations indicated that the scope of the historical contamination problem went far beyond Love Canal, making the federal disaster relief option impractical. In December of 1980, Congress passed CERCLA to address uncontrollable hazardous waste sites throughout the country.

CERCLA amended the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) to provide a regulatory blueprint for federal response to releases of hazardous substance, pollutants, and contaminants (40 CFR Part 300). The primary objectives of the Superfund program include the following:

- Identify those sites where releases of hazardous substances have already occurred or might occur and posed a serious threat to human health, welfare, or the environment
- Take appropriate action to remedy the releases
- Force those parties responsible for the release to pay for the cleanup actions.

To accomplish these tasks, CERCLA provided the federal government with new response authority, created a \$1.6 billion trust fund to pay for federal response actions, and imposed cleanup liability on **potentially responsible parties** (PRPs). The “Super Fund” was established primarily by tax assessments on oil and designated chemicals.

### SUPERFUND REAUTHORIZATION AND TAXING AUTHORITY

The Superfund Amendments and Reauthorization Act (SARA) not only reauthorized the Superfund program for another five years, but it also increased the Fund from \$1.6 billion to \$8.5 billion. The taxing authority of SARA was to expire on December 31, 1991; however, the Omnibus Reconciliation Act of 1990 extended the taxes without modification for another four years, through December 31, 1995. Separately, the Superfund program was reauthorized, without changes to the text of the Statute, until September 30, 1994, a three-year extension from the expiration date of the SARA authorization in 1991. Congress failed to reauthorize the Superfund program before September 30, 1994 (the end of the fiscal year); however, the program is still operating because Congress continues to appropriate funds to the Superfund program.

Unfortunately, it became apparent that the problem of abandoned hazardous waste sites was more extensive than originally thought and its solution would be more complex and time consuming. Unlike RCRA response actions where the owner and operator of a site are known, CERCLA may deal with environmental threats due to historical activities and, thus, the responsible party may be unknown, no longer in existence (e.g., a defunct company), or unable to pay. To address these additional concerns, Congress passed the Superfund Amendments and Reauthorization Act (SARA) of 1986. SARA not only reauthorized the Superfund program for another five years, but it also increased the fund from a total of \$1.6 billion to \$8.5 billion. In addition, SARA established new standards and schedules for site cleanup, created new programs for informing the public of risks from hazardous substances in their community, and helped prepare communities for hazardous substance emergencies.

## TRIGGER FOR STATUTORY RESPONSE

CERCLA response authorities are triggered by a release or a substantial threat of release of dangerous substances into the environment (e.g., a chemical spill from a tank truck accident or a leak from a damaged drum). The release must involve either:

- a hazardous substance, or
- a pollutant or contaminant.

In addition, a release must pose an imminent or substantial threat to the public health or welfare.

## TYPES OF RESPONSE ACTIONS

Once a potential release has been identified, the information is entered into the **Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)**, a computerized database used to track hazardous substance sites. After being entered into CERCLIS, each site undergoes a **preliminary assessment (PA)** to determine if the site poses a potential hazard and whether further action is necessary. If the threat is immediate, a **removal action** may be conducted.

Removal actions are short-term cleanup actions that address immediate threats at a site. They are conducted in response to an emergency situation (e.g., to avert an explosion, to cleanup a hazardous waste spill, or to stabilize a site until a permanent remedy can be found). Removal actions are limited to 12 months duration or \$2 million in expenditures, although in certain cases these limits may be extended. Removals may occur at any point in time after the PA has been conducted and may be conducted in addition to remedial actions.

**Remedial actions** are response actions that ultimately represent the final remedy for a site and generally are more expensive and of a longer duration than removals. In the event that long-term cleanup is necessary, the site is referred to the remedial program for further investigation and assessment.

If the PA reveals that a remedial action is necessary, EPA will conduct a more involved study of the site during a **site inspection (SI)**. Based on data collected during the PA and the SI, EPA will evaluate the site using the **Hazard Ranking System (HRS)**, a scoring system that determines the relative risk to public health and the environment posed by hazardous substances in ground water, surface water, air, and soil. Only those sites with a score of 28.5 (on a scale from 0 to 100) are eligible for placement

on the **National Priorities List (NPL)**, EPA's list of priority hazardous substance sites for cleanup. Fund monies are only available for remedial actions at (non-federal facility) hazardous waste sites on the NPL. As of May 2004, there are over 1,300 sites either on the NPL or proposed for inclusion. The majority of sites are placed on the NPL based on their HRS score. Under some circumstances, sites may also be placed on the NPL by the state in which the site is located or by the Agency for Toxic Substances and Disease Registry (ATSDR) in accordance with EPA.

Once a site is placed on the NPL, the remedial process begins. A remedial action has two main phases. The first phase, the **remedial investigation/feasibility study (RI/FS)**, involves evaluating site conditions at the site, defining any problems, and comparing alternative site cleanup methods. After the remedy has been selected, the decision is documented in the **record of decision (ROD)**. The second phase, the **remedial design/remedial action (RD/RA)**, involves designing the chosen cleanup and beginning construction.

Following the implementation of the remedy, the state or the PRP assumes responsibility for the **operation and maintenance (O&M)** of the site, which may include such activities as ground water pump and treat, and cap maintenance. Once EPA has determined that all appropriate response actions have been taken and cleanup goals have been achieved, the site is deleted from the NPL through a formal rulemaking process.

EPA is committed to early and meaningful community participation during Superfund response actions. CERCLA, as implemented by the NCP, requires specific community involvement activities that must occur at certain points throughout the Superfund process. These activities include, but are not limited to, public meetings, requests for public comment, and availability of Superfund decision documents. In addition, most sites deleted from the NPL are still subject to **five-year reviews** to ensure the remedy continues to be protective of human health and the environment.

## RCRA AND REMEDY SELECTION UNDER CERCLA

Rather than establishing individual cleanup standards, CERCLA assures that remedies are based on cleanup standards and criteria established by other laws (e.g., CAA, CWA, and RCRA) in conjunction with site-specific risk factors. CERCLA specifically requires that remedies attain any legally **applicable or relevant and appropriate requirements (ARARs)** (i.e., standards, criteria, or limitations under federal or more stringent state environmental laws). For example, whenever a remedial action involves on-site treatment, storage, or disposal of hazardous waste, the action must meet RCRA's technical standards for such treatment, storage, or disposal (as discussed in Chapter III, Regulations Governing Treatment, Storage, and Disposal Facilities).

Once hazardous wastes are transported from a CERCLA site, they are subject to full RCRA regulation. Therefore, all transportation and treatment, storage, and disposal facility (TSDF) requirements under RCRA must be followed. This means that off-site shipments must be accompanied by a manifest. In particular, the off-site disposal of hazardous wastes can occur only at a RCRA facility in a unit in full compliance with the Subtitle C requirements.

For off-site land disposal of wastes resulting from a CERCLA activity, the program requires the following: First, the unit in which the wastes are to be disposed must not be releasing hazardous wastes or constituents into ground water, surface water, or soil. Second, any releases from other units of the facility must be under an approved RCRA corrective

### WHAT ARE ARARS?

CERCLA specifically requires that remedies attain any legally applicable or relevant and appropriate requirements (ARARs) (i.e., standards, criteria, or limitations under federal or more stringent state environmental laws). For example, whenever a remedial action involves on-site treatment, storage, or disposal of hazardous waste, the action must meet RCRA's technical standards for such treatment, storage, or disposal. The NCP details the application of ARARs to Superfund remedial actions.



action program. This policy assures that wastes shipped off site from CERCLA sites are sent to environmentally sound waste management facilities.

Finally, EPA may not take or fund remedial actions in a state unless the state ensures the availability of hazardous waste treatment and disposal capacity by submitting a **capacity assurance plan** (CAP) to EPA. Under a CAP, a state assures the availability of treatment or disposal facilities that meet the following requirements: First, the treatment and disposal facilities must be in compliance with RCRA Subtitle C requirements. Second, the facilities must have the capacity to adequately manage hazardous wastes projected to be generated within the state over 20 years. This requirement limits and manages the amount of hazardous waste generated in the United States by encouraging waste minimization and recycling, interstate agreements, and efficient and realistic hazardous waste management systems. Currently, every state in the nation has submitted a CAP to EPA.

## **RCRA CORRECTIVE ACTION VS. CERCLA RESPONSE**

The cleanup of a site with hazardous waste contamination may be handled under either CERCLA, as described above, or RCRA. RCRA authorizes EPA to require corrective action (under an enforcement order or as part of a permit) whenever there is, or has been, a release of hazardous waste or constituents at TSDFs. RCRA also provides similar corrective action authority in response to releases at interim status facilities. Further, RCRA allows EPA to require corrective action beyond the facility boundary. EPA interprets the term corrective action (as discussed in Chapter III, Corrective Action to Clean Up Hazardous Waste Contamination) to cover the full range of possible actions, from studies and interim measures to full cleanups.

RCRA and CERCLA cleanup programs have roughly the same approach to cleanups. In both, examinations of available data are made after discovery of a release to determine if an emergency action is warranted. Both programs authorize short-term measures to abate immediate adverse effects of

a release. In addition, once an emergency has been addressed, both programs provide for appropriate investigation to establish long-term cleanup options. One major difference between the two programs involves funding. CERCLA allows for the expenditure of Fund monies for removal actions and remedial actions at NPL sites (non-federal facility), in addition to strong liability provisions to ensure that the polluter pays whenever possible. There is no comparable fund under the RCRA corrective action program because the owner or operator of the site is responsible for the cost of the cleanup in all instances.

Another difference between the two programs is the implementation. The facility owner or operator implements RCRA corrective action. On the other hand, a number of different parties can implement a CERCLA remedial action in a number of different ways. For example, agreements may be reached that allow PRPs, the state, or the Federal government, to assume that the lead for certain portions of a response action.

Generally, cleanups conducted solely under RCRA corrective action or CERCLA response authority will substantively satisfy the requirements of both programs. It is EPA's general policy for facilities subject to both CERCLA and RCRA to be deferred to RCRA authority. In some cases, however, it may be more appropriate to use both RCRA and CERCLA authorities. EPA has many procedures in place to facilitate coordination between RCRA and CERCLA programs.

## **IMMINENT HAZARDS UNDER RCRA AND CERCLA**

Both RCRA and CERCLA contain provisions that allow EPA to require persons contributing to an imminent hazard to take the necessary actions to clean up releases. RCRA's §7003 imminent and substantial endangerment provision addresses nonhazardous as well as hazardous solid waste releases. The authority under CERCLA §106 is essentially the same, except that CERCLA's authority to force abatement of an imminent or substantial danger to public health or the environment is limited to hazardous substance



releases. In an enforcement action, the RCRA and CERCLA imminent hazard provisions may be used in tandem to ensure adequate protection of human health and the environment.

## SUMMARY

CERCLA authorizes cleanup responses whenever there is a release, or a substantial threat of a release, of a hazardous substance, a pollutant, or a contaminant, that presents an imminent and substantial danger to human health or the environment. After the discovery of a potential release, the site is entered into CERCLIS, and undergoes a PA. If there is an immediate hazard, EPA may require a removal action. If long-term remediation is necessary, EPA will conduct an SI, evaluate the site using the HRS, and possibly place the site on the NPL. After NPL listing, a site undergoes further investigation (RI/FS) and remedial alternatives are evaluated. After a remedy has been selected, the decision is documented in the ROD, the RD/RA is implemented, and the state or PRP assumes responsibility for O & M of the site. When all appropriate remedial actions have been taken and the cleanup goals have been achieved, the site is deleted from the NPL, although if waste remains on site, the action is subject to five-year reviews to ensure that the remedy remains protective of human health and the environment.

In general, RCRA authorizes the safe and protective management of wastes, while CERCLA authorizes cleanup responses whenever there is a release of hazardous substances, pollutants, or contaminants (e.g., hazardous wastes). However, the two programs do contain common elements. For example, RCRA standards may be considered ARARs and can be important in selecting remedies under CERCLA. Moreover, RCRA's corrective action and CERCLA's remedial action use parallel, but not identical, procedures. Finally, both statutes authorize EPA to act in the event of an imminent hazard.

## ADDITIONAL RESOURCES

Additional information about the topics covered in this chapter can be found at [www.epa.gov/superfund](http://www.epa.gov/superfund). Further information about EPA cleanup programs can be found at [www.epa.gov/epaoswer/cleanup/index.htm](http://www.epa.gov/epaoswer/cleanup/index.htm).

## **EXHIBIT 2**

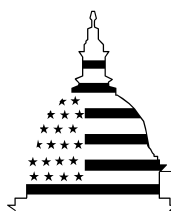
GAO

Report to Congressional Requesters

August 2005

# ENVIRONMENTAL LIABILITIES

## EPA Should Do More to Ensure That Liable Parties Meet Their Cleanup Obligations



G A O

Accountability ★ Integrity ★ Reliability

August 2005



Highlights of [GAO-05-658](#), a report to congressional requesters

## Why GAO Did This Study

The burden of cleaning up Superfund and other hazardous waste sites is increasingly shifting to taxpayers, particularly since businesses handling hazardous substances are no longer taxed under Superfund and the backlog of sites needing cleanup is growing. While key environmental laws rely on the “polluter pays” principle, the extent to which liable parties cease operations or restructure—such as through bankruptcy—can directly affect the cleanup costs faced by taxpayers. GAO was asked to (1) determine how many businesses with liability under federal law for environmental cleanups have declared bankruptcy, and how many such cases the government has pursued in bankruptcy court; (2) identify challenges the Environmental Protection Agency (EPA) faces in holding bankrupt and other financially distressed businesses responsible for their cleanup obligations; and (3) identify actions EPA could take to better ensure that such businesses pay for their cleanups.

## What GAO Recommends

GAO’s nine recommendations include EPA’s (1) implementing a financial assurance mandate for businesses handling hazardous substances and (2) enhancing its oversight and enforcement of existing financial assurances and authorities. EPA generally agreed with many of the recommendations, stating its intent to further evaluate some of them.

[www.gao.gov/cgi-bin/getrpt?GAO-05-658](http://www.gao.gov/cgi-bin/getrpt?GAO-05-658).

To view the full product, including the scope and methodology, click on the link above. For more information, contact John B. Stephenson at (202) 512-3841 or [stephensonj@gao.gov](mailto:stephensonj@gao.gov).

# ENVIRONMENTAL LIABILITIES

## EPA Should Do More to Ensure That Liable Parties Meet Their Cleanup Obligations

### What GAO Found

While more than 231,000 businesses operating in the United States filed for bankruptcy in fiscal years 1998 through 2003, the extent to which these businesses had environmental liabilities is not known because neither the federal government nor other sources collect this information. Information on bankrupt businesses with federal environmental liabilities is limited to data on the bankruptcy cases that the Justice Department has pursued in court on behalf of EPA. In that regard, the Justice Department initiated 136 such cases from 1998 through 2003.

In seeking to hold liable businesses responsible for their environmental cleanup obligations, EPA faces significant challenges that often stem from the differing goals of environmental laws that hold polluting businesses liable for cleanup costs and other laws that, in some cases, allow businesses to limit or avoid responsibility for these liabilities. For example, businesses can legally organize or restructure in ways that can limit their future expenditures for cleanups by, for example, separating their assets from their liabilities using subsidiaries. While many such actions are legal, transferring assets to limit liability may violate federal law in some cases. However, such cases are difficult for EPA to identify and for the Justice Department to prosecute successfully. In addition, bankruptcy law presents a number of challenges to EPA’s ability to hold parties responsible for their cleanup obligations, challenges that are largely related to the law’s intent to give debtors a fresh start. Moreover, by the time a business files for bankruptcy, it may have few, if any, assets remaining to distribute among creditors. The bankruptcy process also poses procedural and informational challenges for EPA. For example, EPA lacks timely, complete, and reliable information on the thousands of businesses filing for bankruptcy each year.

Notwithstanding these challenges, EPA could better ensure that bankrupt and other financially distressed businesses meet their cleanup obligations by making greater use of existing authorities. For example, EPA has not implemented a 1980 statutory mandate under Superfund to require businesses handling hazardous substances to demonstrate their ability to pay for potential environmental cleanups—that is, to provide financial assurances. EPA has cited competing priorities and lack of funds as reasons for not implementing this mandate, but its inaction has exposed the Superfund program and U.S. taxpayers to potentially enormous cleanup costs at gold, lead, and other mining sites and at other industrial operations, such as metal-plating businesses. Also, EPA has done little to ensure that businesses comply with its existing financial assurance requirements in cleanup agreements and orders. Greater oversight and enforcement of financial assurances would better guarantee that cleanup funds will be available if needed. Also, greater use of other existing authorities—such as tax offsets, which allow the government to redirect tax refunds it owes businesses to agencies with claims against them—could produce additional payments for cleanups from financially distressed businesses.

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**Abbreviations**

BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
EFAB	Environmental Financial Advisory Board
EPA	Environmental Protection Agency
IG	inspector general
NPL	National Priorities List
RCRA	Resource Conservation and Recovery Act

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United States Government Accountability Office  
Washington, D.C. 20548

August 17, 2005

The Honorable James M. Jeffords  
Ranking Minority Member  
Environment and Public Works Committee  
United States Senate

The Honorable Patrick J. Leahy  
Ranking Minority Member  
Committee on Judiciary  
United States Senate

The Honorable Barbara Boxer  
The Honorable Maria Cantwell  
United States Senate

Key federal environmental statutes, such as the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),<sup>1</sup> which established the Superfund program, require that parties statutorily responsible for pollution bear the cost of cleaning up contaminated sites.<sup>2</sup> In many cases, liable parties have met their cleanup responsibilities. However, parties responsible for cleaning up some Superfund sites include businesses that no longer exist, having been liquidated through bankruptcy or otherwise dissolved. In the past, most of the costs for these “orphan” Superfund sites were borne by a Superfund trust fund supported primarily by a tax on crude oil and certain chemicals and an environmental tax on corporations. However, authority to collect these taxes expired in 1995, and the fund is now mostly depleted. As a result, the government—the Environmental Protection Agency (EPA)—now largely pays for hazardous waste cleanups with appropriations from the general fund when responsible parties do not.<sup>3</sup>

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<sup>1</sup>For simplicity in this report, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 will generally be referred to as the Superfund law.

<sup>2</sup>The Superfund law generally applies to cleanups of contaminated sites that are no longer in use. RCRA generally applies to operating businesses that treat, store, or dispose of hazardous wastes.

<sup>3</sup>See GAO, *Superfund Program: Current Status and Future Fiscal Challenges*, [GAO-03-850](#) (Washington, D.C.: July 31, 2003).

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In light of the substantial federal deficit, EPA's management of its financial risks associated with Superfund and RCRA is increasingly important. For example, the extent to which responsible parties with liabilities cease operations or restructure—often through bankruptcy proceedings—can directly affect the Superfund costs that will be borne by the government. According to recent studies, it will cost \$140 million, on average, to clean up each of the 142 largest Superfund sites, for a total of almost \$20 billion.<sup>4</sup> Importantly, cleanups at 60 of these megasites are already being funded either wholly or partially by EPA. In addition, the cleanup burden borne by EPA and other government entities will be increased if operating businesses, including those regulated under RCRA, fail to fulfill their cleanup obligations. For example, businesses may simply close and abandon contaminated properties—or they may go through bankruptcy proceedings—leaving contaminated properties for state programs or EPA's Superfund program to clean them up.

In implementing the Superfund and RCRA programs, EPA uses some risk management approaches, such as requiring that certain responsible parties—generally businesses—provide the agency with evidence of their ability to pay their expected future cleanup costs because the cleanups often take many years and the financial position of liable businesses can change during that time. Financial assurances are meant to assure EPA that the businesses will have the money to finish the cleanups in the future. Thus, when negotiating Superfund and RCRA cleanup agreements with EPA, businesses generally agree to provide financial assurances aimed at demonstrating their ability to meet the requirements of the agreements.<sup>5</sup> These financial assurances include bank letters of credit, trust funds, and, under certain conditions, guarantees that businesses or their parent corporations have the financial wherewithal to meet the obligations.

According to EPA officials, businesses file for bankruptcy protection generally for economic reasons unrelated to environmental liabilities, with some notable exceptions. When businesses file for bankruptcy in 1 of 90 U.S. bankruptcy courts, they seek either to liquidate all assets and go out of business or to reorganize—which can include a partial liquidation—and

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<sup>4</sup>National Advisory Council for Environmental Policy and Technology Superfund Subcommittee Final Report, April 2004, and Katherine N. Probst and David M. Konisky: *Superfund's Future: What Will It Cost?* (Washington, D.C.: Resources for the Future, 2001).

<sup>5</sup>Permits are also a vehicle for establishing financial assurance requirements for businesses required to obtain RCRA operating permits.

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remain in business. EPA has set up an informal process to identify bankruptcy cases that involve environmental liabilities and to assess whether the assets available for creditors, which include EPA, warrant referring a case to the Department of Justice, which files claims in bankruptcy court on behalf of EPA.

In this context, our objectives were to (1) determine how many businesses with liability under federal law for environmental cleanups have declared bankruptcy and how many such cases the Justice Department has pursued in bankruptcy court, (2) identify key challenges that EPA faces in holding bankrupt and other financially distressed businesses responsible for their cleanup obligations, and (3) identify any actions EPA could take to better ensure that bankrupt and other financially distressed businesses pay the costs of cleaning up their hazardous waste sites to the maximum extent practicable.

To address these objectives, we reviewed federal statutes and policies associated with hazardous waste management and cleanup, the federal bankruptcy code and procedures, and academic and professional literature addressing the intersection of environmental and bankruptcy law, corporate limited liability, forms of business organization, and asset management. In addition, we interviewed EPA headquarters and regional enforcement officials about how the agency identifies, pursues, and recovers federal environmental liabilities from financially distressed or bankrupt businesses; the challenges EPA faces in these tasks; and the extent to which the agency has used available authorities and enforcement tools in this effort. We also analyzed bankruptcy data for fiscal years 1998 through 2003 from the Administrative Office of the U.S. Courts. In addition, for the same period, we analyzed Justice Department data on bankruptcies involving environmental liabilities that the department pursued in bankruptcy court on behalf of EPA. More detail on our scope and methodology can be found in appendix I. We performed our work between September 2003 and July 2005 in accordance with generally accepted government auditing standards.

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## Results in Brief

While national bankruptcy data show that more than 231,000 businesses operating in the United States filed for bankruptcy in fiscal years 1998 through 2003, the extent to which these businesses had existing environmental liabilities is not known because neither the federal government nor other sources collect this information. EPA seeks to identify information on those business bankruptcies that involve

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environmental liabilities owed to EPA by, among other things, reviewing bankruptcy notices. However, EPA does not maintain information on the results of its reviews of bankruptcy cases. According to EPA officials, the agency does not maintain information on the results of all of its reviews of bankruptcy cases—including whether environmental liabilities are involved—because of the large volume of bankruptcy notices it receives and the limited resources available to track such information. Thus, information on businesses in bankruptcy proceedings with federal environmental liabilities is limited to data on the bankruptcy cases that the Justice Department has pursued in court on behalf of EPA and other agencies. In that regard, the Justice Department initiated 136 such cases from 1998 through 2003, most of which were for hazardous waste liabilities under Superfund and RCRA.

In seeking to hold bankrupt and other financially distressed businesses responsible for their cleanup obligations, EPA faces significant challenges that often stem from the differing goals of environmental laws that hold polluting businesses liable for cleanup costs and other laws that, in some cases, allow businesses to limit or avoid responsibility for those liabilities. For example, businesses can legally reorganize or restructure in ways that can limit their future expenditures for environmental cleanups by separating their assets from their liabilities using subsidiaries. Importantly, the long-term nature of many environmental cleanups—particularly under Superfund—gives businesses a significant amount of time to make such corporate changes. While many such actions are legal, transferring assets to limit liability may be prohibited under certain circumstances. However, such cases are difficult both for EPA to identify and for the Justice Department to prosecute successfully. In addition, federal bankruptcy law, like corporate law, presents a number of significant challenges to EPA's efforts to hold bankrupt and other financially distressed businesses responsible for their cleanup obligations. Bankruptcy law serves both to provide insolvent debtors a measure of financial relief—including a fresh start—and to equitably distribute their funds to maximize creditors' interests in receiving payment. However, these goals can conflict with the Superfund and other environmental laws, which generally require the cleanup of environmental contamination and the imposition of costs on the parties responsible for the pollution. These challenges are partly related to the bankruptcy law's discharging of a debtor's liability for pre-bankruptcy debts. Moreover, by the time a business files for bankruptcy, it may have few, if any, assets remaining to distribute among creditors. The bankruptcy process also poses procedural and informational challenges for EPA. For example, EPA's efforts to identify bankruptcies that may warrant pursuit in

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bankruptcy court are hampered by the lack of timely, complete, and reliable information on the many thousands of businesses filing for bankruptcy each year.

Notwithstanding these inherent challenges, EPA could better ensure that bankrupt and other financially distressed businesses carry out their cleanup responsibilities by making greater use of existing authorities and enforcement tools. For example, EPA has not yet implemented a 1980 statutory mandate under Superfund to require businesses handling hazardous substances to maintain financial assurances that would provide evidence of their ability to pay to clean up potential spills or other environmental contamination that could result from their operations. By its inaction on this mandate, EPA has continued to expose the Superfund program, and ultimately the U.S. taxpayers, to potentially enormous cleanup costs at facilities that currently are not required to have financial assurances for cleanup costs, such as many gold, lead, and other hardrock mining sites and metal-plating facilities. Although implementing the requirement could help avoid the creation of additional Superfund sites and could provide funds to help pay for cleanups, EPA has cited, among other things, competing priorities and lack of funds as reasons for having made no progress in this area for nearly 25 years. Additionally, although EPA's current practice is to include requirements in settlement agreements and orders under Superfund and RCRA for businesses to provide financial assurances within a specified period of time, EPA has done little to ensure that the businesses comply with the financial assurance requirements. For example, EPA has not collected data on the financial assurances businesses are required to have in place under the Superfund and RCRA corrective action programs, such as the type of assurance required, the amount of financial assurance they provide, and whether the financial assurance is still authorized or is in force. The one study on this issue, conducted by an EPA regional office, found that (1) about half of the responsible parties subject to Superfund financial assurance requirements in that region were not in compliance with them and (2) the agency could not locate relevant financial assurance documents to evaluate compliance in many cases—22 percent. Providing greater oversight and enforcement of financial assurances would better guarantee that cleanup funds will be available if needed.

In addition to financial assurances, EPA has on occasion used other enforcement authorities to obtain payments for cleanups. For example, in a few instances, EPA has used tax offsets, which allow the federal government to redirect tax refunds it owes businesses to federal agencies

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with claims against these businesses. Greater emphasis on and use of such authorities could produce additional payments for cleanups from bankrupt and other financially distressed businesses. We are making nine recommendations to the Administrator, EPA, aimed at improving EPA's ability to ensure that liable parties meet their environmental cleanup obligations, including implementing the statutory mandate under Superfund to develop financial assurance regulations for businesses handling hazardous substances; enhancing its efforts to manage and enforce its existing financial assurance requirements; evaluating the financial assurances the agency accepts; and seeking opportunities to more fully use its enforcement tools, particularly tax and other offsets. In commenting on a draft of the report, EPA generally agreed with many of the recommendations and said the agency will further evaluate the others (app. III contains EPA's comments and our responses).

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## Background

At the federal level, the cleanup of hazardous waste sites is primarily addressed under the Superfund and RCRA corrective action programs. The Superfund program is directed primarily at addressing contamination resulting from past activities at inactive or abandoned sites or from spills that require emergency action. The RCRA corrective action program primarily addresses contamination at operating industrial facilities. In addition to these cleanup response programs, another RCRA program—the closure/post-closure program—is designed to prevent environmental contamination by ensuring that hazardous waste facilities are closed in a safe manner and monitored after closure to the extent necessary to protect human health and the environment.

CERCLA created the Superfund program, under which EPA may compel parties statutorily responsible for contaminated sites to clean them up or to reimburse EPA for its cleanup costs.<sup>6</sup> In many cases, liable parties have met their cleanup responsibilities under Superfund. For example, EPA has reported that, as a result of its enforcement activities, liable parties

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<sup>6</sup>Courts have interpreted the liability of responsible parties under CERCLA to be strict, joint and several, and retroactive. Under strict or “no fault” liability, a party may be liable for cleanup even though its actions were not considered improper when it disposed of the wastes. Under joint and several liability, when the harm done is indivisible, one party can be held responsible for the full cost of the remedy even though that party may have disposed of only a portion of the hazardous substances at the site. Under retroactive liability, parties can be held responsible for actions that took place before CERCLA was enacted.



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participate in cleanup work at about 70 percent<sup>7</sup> of the sites on the Superfund National Priorities List (NPL), EPA's list of seriously contaminated sites.<sup>8</sup> However, in some cases, parties responsible for the contamination cannot be identified (for example, at long-abandoned landfills where many parties may have dumped hazardous substances) or the parties do not have sufficient financial resources to perform or pay for the entire cleanup. In the latter case, EPA often settles environmental claims with businesses for less than the cleanup costs if paying for the cleanup would present "undue financial hardship," such as depriving a business of ordinary and necessary assets or resulting in an inability to pay for ordinary and necessary business expenses. (EPA said it also often settles environmental claims for less than the total cleanup costs if the agency believes making the business pay the full cost would be inequitable.) Further, when parties file for bankruptcy protection, EPA's recovery of cleanup costs may be reduced or eliminated, particularly when there are few other parties with cleanup liabilities at the Superfund site.

To help EPA pay for cleanups and related program activities, the Superfund law established a trust fund. Among other things, the trust fund can be used to pay for cleaning up sites on the NPL. Cleaning up NPL sites has often been a very lengthy process—in many cases, it has taken 10 to 20 years. The cleanup process begins when EPA either conducts cleanup studies for the sites or negotiates with liable parties to conduct such studies. These studies identify the types and quantities of contamination at sites and consider alternative cleanup remedies. EPA then chooses the cleanup

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<sup>7</sup>This percentage does not address the percentage of cleanup costs paid by liable parties versus that paid by the government. According to EPA, the agency has information on cleanup amounts liable parties commit to through enforcement instruments but does not have access to information on amounts the liable parties actually spend at the cleanup sites.

<sup>8</sup>To determine which sites are eligible for listing on the NPL, EPA uses its Hazard Ranking System, a numerical scoring system that assesses the hazards a site poses to human health and the environment as its principal determining factor. Once EPA has determined that the risks posed by a site make it eligible for the NPL, EPA regions then consider many other factors in selecting the sites to submit to EPA headquarters for proposal to the NPL, including the availability of alternative federal or state programs that could be used to clean up the site, the status of responsible parties associated with the site, and the cleanup's cost and complexity.

remedies it considers most appropriate and performs the cleanups itself or negotiates settlements with liable parties for them to finance and perform cleanups.<sup>9</sup>

Historically, a tax on crude oil and certain chemicals and an environmental tax on corporations were the primary sources of revenues for the Superfund trust fund; however, the authority for these taxes expired in 1995. The trust fund continues to receive revenues in the form of recoveries of Superfund-related costs from liable parties, interest on the fund balance, fines and penalties, and general revenue fund appropriations that supplement the trust fund balance. Since fiscal year 2000, the Superfund program has increasingly relied on revenue from general revenue fund appropriations.<sup>10</sup> For fiscal year 2004, for example, EPA's Superfund appropriation of \$1.2 billion was from general revenue only.<sup>11</sup> In contrast, through the 1990s, Superfund trust fund revenues other than general fund appropriations provided more than \$1 billion a year in program funding.<sup>12</sup> Further, appropriations for the Superfund program (from both general revenue and trust fund revenues) has decreased from \$1.9 billion to \$1.2 billion, in constant 2003 dollars, from fiscal year 1993 to fiscal year 2004.

Although funding for the Superfund program has decreased, sites continue to be added to the NPL to address serious risks to health and the environment. As of September 30, 2004, there were 1,236 NPL sites.<sup>13</sup> According to a recent study, the cleanup costs for a majority of these sites are under \$50 million each and will cost \$12 million on average. However,

<sup>9</sup>In reality, sites rarely move through the cleanup process in a linear, step-by-step manner. Most sites are divided early in the cleanup process into multiple projects, known as operable units. Cleanup activity at sites with multiple operable units is generally staggered. Operable units may move through the cleanup pipeline at different paces because of a number of factors, such as the availability of funding, the complexity of the cleanup, or the level of cooperation of responsible parties. The discovery of new information about the site can even push an operable unit backward to an earlier stage of the cleanup process.

<sup>10</sup>See GAO, *Superfund Program: Breakdown of Appropriations Data*, [GAO-04-787R](#) (Washington, D.C.: May 14, 2004).

<sup>11</sup>EPA officials noted that in fiscal year 2004, the agency also received \$148 million from settlement payments from liable parties.

<sup>12</sup>For the first half of the 1990s, the trust fund received the Superfund taxes.

<sup>13</sup>Of the 1,236 sites currently on the NPL, 158 are federal facilities. These properties are owned or used by a federal agency, typically either the Department of Defense or the Interior.

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there are 142 Superfund megasites—NPL sites whose cleanup is estimated to cost more than \$50 million each—for which the average cost is expected to be \$140 million. According to EPA estimates, the vast majority of costs for most NPL sites will be incurred getting to the construction completion stage.<sup>14</sup> EPA officials said that 933 NPL sites have reached the construction complete stage as of July 2005.

Despite EPA's significant progress, a backlog of NPL sites is ready to proceed to construction of a long-term cleanup remedy—which is typically the most expensive stage of a cleanup. The decrease in Superfund funding in recent years and this backlog of sites ready for additional funding may make the already lengthy NPL cleanup process even lengthier. According to EPA, many sites in this backlog are large, complex, and costly.<sup>15</sup> Further complicating the funding situation, as we reported in 2003, the number of sites that do not have an identifiable nonfederal source to fund their cleanup is growing, and several factors indicate the potential for additional growth in the future.<sup>16</sup> For example, officials in 8 of the 10 EPA regions noted that they expected more liable parties to declare bankruptcy in the future. Thus, the number of taxpayer-funded cleanups could increase, especially at sites where there are no (or few) other liable parties.

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<sup>14</sup>According to EPA, “construction completion” means that physical construction (if needed) to address contamination at an NPL site—such as construction of a pump-and-treat system to address groundwater contamination—is complete, regardless of whether final cleanup levels have been achieved; all immediate threats from the contamination have been addressed, and all long-term threats are under control. Most of these sites then enter into the operation and maintenance phase, when the responsible party or the state ensures that the cleanup remedy continues to be protective of human health and the environment. Eventually, when EPA and the state determine that no further remedial activities at the site are appropriate, EPA deletes the site from the NPL.

<sup>15</sup>EPA, *Superfund: Building on the Past, Looking to the Future* (Washington, D.C.: Apr. 22, 2004).

<sup>16</sup>GAO-03-850. We also reported that states play a significant role in the cleanup of hazardous waste sites. However, many state cleanup programs have limited capacity to address costly and complex sites that do not have responsible parties to pay for the cleanup.

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In contrast to the Superfund program, the corrective action program under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, primarily addresses contamination at operating industrial facilities.<sup>17</sup> Among other things, RCRA regulates the management of hazardous waste from “cradle to grave”—that is, from the time hazardous waste is created and throughout its lifetime, even after it enters a landfill or is incinerated. While EPA has overall responsibility for implementing the act, and retains enforcement authority, it has authorized most states to administer all or part of RCRA’s hazardous waste program.

RCRA requires owners and operators of hazardous waste facilities—those used to treat, store, or dispose of hazardous waste and often called “TSDFs”—to obtain operating permits specifying how hazardous waste will be safely managed at the facilities. Owners and operators of hazardous waste facilities are also required to prepare closure plans and cost estimates for removing or securing wastes, decontaminating equipment, and other activities required when they eventually cease operations—such as capping a landfill when it is full. In addition, under the RCRA corrective action program, these owners or operators must clean up contamination occurring at their facilities.<sup>18</sup> This is consistent with one of RCRA’s primary purposes, which is to ensure the proper management of hazardous waste so as to minimize present and future health and environmental threats.

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<sup>17</sup>While RCRA primarily applies to operating facilities, it may also apply to facilities that are no longer operating. RCRA is an amendment to the Solid Waste Disposal Act of 1965, the first federal law regulating solid wastes—a broad category of materials including such materials as garbage from homes or businesses and waste materials resulting from industrial, commercial, or agricultural activities. Under the general statutory RCRA definition, a waste is considered hazardous if either (1) the waste has at least one of the following characteristics—it is ignitable, reactive, corrosive, or contains certain toxic constituents such as arsenic or lead (sometimes called characteristic wastes) or (2) the agency has specifically named the waste on a list of products or chemicals, such as pesticides or acids, that the agency has determined are hazardous (sometimes called listed wastes). For purposes of permitting and other RCRA Subtitle C requirements, a waste is considered hazardous if it is a solid waste, which is not exempted or excluded by the Subtitle C regulations, and if it is either specifically listed as a hazardous waste or meets the characteristics of a hazardous waste in those regulations.

<sup>18</sup>The corrective action can be specified in the facility’s operating permit or in a separate corrective action permit. Such permits must require the facility to provide financial assurance that the cleanup actions specified in the permit will be carried out. EPA may also use its enforcement authority to require facilities to clean up hazardous waste contamination by issuing to the facility an enforcement order specifying the corrective action it must take.

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A 2002 EPA study on the implementation of RCRA's corrective action program reported that nearly 900 facilities had undertaken cleanup measures and/or had selected a cleanup remedy by 1997.<sup>19</sup> EPA reported that spills were a major source of contamination at over half of the facilities. The study suggests that those industries with a high risk for contamination requiring clean up under the corrective action program include chemical manufacturing, wood preserving, petroleum refining or other manufacturing industries, and the service sector that includes dry cleaning. In addition, EPA reported that required cleanups under the RCRA corrective action program could be as costly as cleanups at many Superfund sites—EPA estimated that between 2 and 16 percent of the nearly 900 RCRA facilities would have total cleanup costs in excess of \$50 million.

RCRA's closure/post-closure and corrective action programs regulate facilities that treat, store, or dispose of hazardous wastes—but, importantly, RCRA does not regulate some facilities that make or use hazardous substances that are not considered listed or characteristic hazardous wastes under RCRA, but that nevertheless may in some circumstances present a high risk for environmental contamination. Businesses may generally store waste on site in compliance with specified requirements for up to 90 days without needing a permit or being subject to the regulations governing hazardous waste storage facilities.<sup>20</sup> Thus, for example, chemical companies that manufacture and sell highly hazardous substances, such as chlorine products, may not be required to obtain a RCRA permit if they do not store their hazardous waste—even though the products themselves may pose environmental risk.

RCRA authorizes EPA to issue regulations for the operation of hazardous waste treatment, storage, and disposal facilities, including such additional qualifications as to financial responsibility as may be necessary or

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<sup>19</sup>Using a stratified random sample of 65 of these facilities, this study examined relevant information on industries at risk for environmental contamination and on costs of these cleanups.

<sup>20</sup>Specifically, a generator may generally accumulate hazardous waste on site for 90 days or less provided that, among other things, the waste is placed in containers, tanks, containment buildings, or on drip pads in compliance with applicable EPA regulations. Generators of hazardous waste are also required to comply with certain RCRA requirements intended to ensure the safe management of hazardous wastes.

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desirable.<sup>21</sup> EPA has issued regulations under the closure/post-closure program requiring that owners and operators of certain hazardous waste facilities provide evidence to EPA, or a state regulator, that they have sufficient financial resources to clean up as required for proper closure, and, if necessary, for post-closure care.<sup>22</sup> EPA regulations also require a facility seeking a permit to provide financial assurances to cover any corrective action responsibilities identified in the permit.<sup>23</sup> The principal purpose of financial assurance requirements is to ensure that the parties responsible for environmental contamination assume the costs of cleanup rather than forcing the general public to pay for or otherwise bear the consequences of businesses' environmental liabilities.<sup>24</sup> That is, financial assurances can help ensure that resources are available to fulfill the businesses' cleanup obligations as they arise. The fact that the parties responsible for the contamination are also responsible for cleaning it up encourages businesses to adopt responsible environmental practices.

Under the RCRA closure and post-closure and other EPA programs, financial assurances can include, among other things, bank letters of credit that guarantee payment by the financial institutions that issue them and, under certain conditions, guarantees that businesses or their parent corporations have the financial wherewithal to meet their obligations. While EPA has not issued financial assurance regulations under the RCRA corrective action program, EPA typically requires that owners and operators provide financial assurances for cleanups of spills or other contamination at hazardous waste facilities in administrative orders the

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<sup>21</sup>42 U.S.C. § 6924(a)(6). Financial responsibility may be established in accordance with EPA regulations by any one or a combination of the following: insurance, guarantee, surety bond, letter of credit, or qualification as a self-insurer. 42 U.S.C. § 6924(t)(1).

<sup>22</sup>See RCRA closure/post-closure financial assurance regulations at 40 C.F.R. Part 264, Subpart H.

<sup>23</sup>40 C.F.R. § 264.101(b). See footnote 18.

<sup>24</sup>Financial assurance requirements serve several purposes, including fairness, economic efficiency, and pollution deterrence. See James Boyd, *Financial Responsibility for Environmental Obligations: Are Bonding and Assurance Rules Fulfilling Their Promise?* (Washington, D.C.: Resources for the Future, August 2001). Courts have recognized that financial assurance regulations play a critical role in deterring environmental misconduct and ensuring the safe design and operation of hazardous waste facilities, e.g., *Safety-Kleen v. Wyche*, 274 F.3d 846, 866 (4th Cir. 2001).



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agency issues under this program.<sup>25</sup> Also, as noted above, EPA regulations require a facility seeking a permit to provide financial assurances to cover any corrective action responsibilities identified in the permit. Since, as discussed above, generators of hazardous waste generally are not subject to the RCRA corrective action and closure and post-closure requirements, they are not required to provide financial assurances for any RCRA cleanups that may be needed as a result of their operations.

EPA also has not issued financial assurance regulations for the Superfund program, but in some cases does require liable businesses to obtain financial assurances demonstrating their ability to pay cleanup costs for existing contamination at Superfund sites. Specifically, when EPA reaches settlement agreements with parties regarding site cleanups, the agency generally requires the businesses to provide financial assurance demonstrating their ability to pay for the agreed-upon cleanup activities. In this regard, EPA has included financial assurance requirements in its “model agreements” for staff to use in negotiating Superfund settlements. However, if EPA and a liable party do not reach a settlement, there is no regulatory requirement under Superfund that the party provide financial assurance that it will be able to pay its cleanup liabilities. There is, however, a statutory mandate under Superfund law that EPA has not implemented requiring it to issue financial assurance regulations for facilities that handle hazardous substances. As discussed further in this report, these regulations could cover a number of facilities not currently covered by financial assurances under RCRA.

Businesses that may incur environmental liabilities under Superfund or RCRA run the gamut in terms of organization type and size—they include large U.S. and international corporations as well as small businesses, such as sole proprietorships. These entities may be publicly held—that is, their stock is traded on public stock exchanges—or they may be closely (privately) held. The different forms of organization—such as corporations and partnerships—have different legal and tax attributes. A corporation is a legal entity that exists independently of its owners or investors, called shareholders. A key attribute of corporations is that they limit the liability of their owners, the shareholders. That is, corporations are liable for the debts and obligations of their businesses, while the shareholders are liable only for what they have invested. In contrast to shareholders, the owners of

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<sup>25</sup>Although EPA has not issued financial assurance regulations for the corrective action program, the agency issued guidance on this topic in 2003.

unincorporated businesses, such as partnerships and sole proprietorships, are generally liable for all debts and liabilities incurred by their businesses but also have tax advantages that corporation owners do not. However, another unincorporated organizational form that is relatively new but is becoming more popular for businesses of all sizes—the limited liability company—provides owners limited liability similar to a corporation as well as tax treatment similar to partnerships and sole proprietorships.<sup>26</sup> Like many corporations, these “hybrids” can have any number of investors (owners), and the investors may include partnerships, corporations, individuals, and others.<sup>27</sup>

In general, more financial and ownership information is available about publicly held corporations, which must comply with more federal reporting requirements, such as those of the U.S. Securities and Exchange Commission (SEC), than about privately held corporations. Information about limited liability companies, including those in offshore locations such as the Bahamas, may be limited or unavailable. Information may also be limited or unavailable about special purpose entities—legal entities created to carry out a specified purpose or activity, such as to consummate a specific transaction or a series of transactions with a narrowly defined purpose. Some large corporations, such as Enron, allegedly have used special purpose entities to hide the true financial condition of the companies.<sup>28</sup> Following the bankruptcy of Enron and other corporate failings, the Congress passed the Sarbanes-Oxley Act of 2002 to protect investors by improving the accuracy and reliability of corporate disclosures. Among other things, the law includes requirements governing financial disclosures and audits for publicly held corporations.

In addition, in 2003 the Financial Accounting Standards Board, the organization that establishes financial accounting and reporting standards

<sup>26</sup>Limited liability companies originated in Wyoming in 1977. Today, all states allow this form of business organization.

<sup>27</sup>Certain corporations, called subchapter S corporations, also provide limited liability and more favorable tax treatment but ownership is limited in terms of the number of allowable owners and type of owners. For example, all shareholders in a subchapter S corporation must be individuals.

<sup>28</sup>The May 1, 2003, Justice Department indictment of former Enron officials included charges of conspiring to improve Enron’s balance sheet using special purpose entities. See also *Special Purpose Entities: Uses and Abuses*, Presentation to the International Monetary Fund by Janet Tavakoli, President, Tavakoli Structured Finance, April 2005.

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for the private sector, issued revised guidance on accounting for special purpose entities and is currently working on further accounting guidance for them.

While some financially distressed businesses simply cease operations, others file for bankruptcy protection. The bankruptcy code is a uniform body of federal law that governs all bankruptcy cases and gives debtors—individuals or businesses—a fresh start or some measure of relief from burdensome debts.<sup>29</sup> Filing a bankruptcy petition gives the petitioner some immediate relief in the form of an automatic stay, which generally bars creditors from commencing or continuing any debt collection actions against the entity while it is in bankruptcy.<sup>30</sup>

In bankruptcy, debt can be placed in one of three broad categories: secured, priority unsecured, and general unsecured, which are generally satisfied in that order when a debtor's assets are distributed in a bankruptcy proceeding. The actual, necessary costs and expenses of preserving the bankruptcy estate are administrative expenses, which must be paid in full before any other class of claims are paid. By definition, administrative expenses must be incurred post-petition because the bankruptcy estate is created by the filing of the bankruptcy petition. Response costs incurred by EPA under the Superfund law post-petition with respect to property of the estate may be entitled to administrative priority. However, environmental response costs at property the debtor does not own are typically considered general unsecured debts, and often are paid at pennies on the dollar—if at all—in a bankruptcy proceeding.

The two types of bankruptcy cases most relevant to EPA are chapter 7 business liquidations and chapter 11 corporate reorganizations. Businesses file for bankruptcy under chapter 7 when they are ceasing operations.<sup>31</sup>

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<sup>29</sup>The bankruptcy code was substantially revised in April 2005, primarily to address consumer bankruptcies.

<sup>30</sup>Environmental enforcement actions seeking injunctive relief against companies in bankruptcy are generally excepted from the automatic stay pursuant to the "police power" exemption in the bankruptcy code. Administrative or judicial proceedings to fix the amount of a penalty or establish the amount of cost recovery owed are also exempt from the automatic stay. However, once a penalty is assessed or a judgment is obtained, the automatic stay prohibits collection activities other than through the bankruptcy process.

<sup>31</sup>In some cases, companies filing for bankruptcy protection under chapter 11 also cease operations and go through liquidation rather than reorganization.

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While some financially distressed businesses cease operations without the formality of bankruptcy proceedings, those that file under chapter 7 use a court-supervised procedure in which a trustee collects the assets of the business (the bankruptcy estate), reduces them to cash, and makes distributions to creditors. In many chapter 7 cases, however, few or no assets are available for distribution.

Alternatively, businesses facing financial difficulties may want to continue to operate. These businesses can use the chapter 11 bankruptcy process to restructure unmanageable debt burdens. Most bankruptcy claims EPA pursues in court are chapter 11 reorganizations. EPA's goals in participating in chapter 11 cases include collecting environmental costs owed to the government, ensuring that the debtor complies with applicable environmental laws and regulations, and ensuring that cleanup obligations are satisfied. The chapter 11 debtor generally has 120 days during which it has the exclusive right to file a plan of reorganization. However, the bankruptcy court can extend or reduce this period.<sup>32</sup> The debtor must provide creditors with a disclosure statement containing information adequate to enable creditors to evaluate the plan, including how the existing debts will be paid. The court ultimately approves (confirms) or disapproves the plan of reorganization. Confirmation of the plan generally discharges eligible debts that were incurred prior to the plan's confirmation. Certain cleanup obligations, however, such as future cleanup liabilities under RCRA, are not dischargeable under bankruptcy. The debtor normally goes through a period of consolidation and emerges with a reduced debt load and a reorganized business. However, many chapter 11 reorganizations are not successful in that many reorganized businesses subsequently fail and go through liquidation.

Bankruptcy cases are heard by U.S. bankruptcy judges in 90 federal bankruptcy courts, which are under 12 regional federal appellate circuit courts.<sup>33</sup> In many instances, applicable law on key questions is unsettled and interpretations may vary among the circuits. For example,

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<sup>32</sup>Bankruptcy courts routinely grant extensions of this exclusivity period, according to the chair of EPA's bankruptcy work group. For example, the exclusivity period has been repeatedly extended during the 4 years since W.R. Grace and Company filed for bankruptcy in April 2001.

<sup>33</sup>Bankruptcy judges are judicial officers of the district courts and are appointed for 14-year terms by the court of appeals for the appellate circuit in which the bankruptcy court is located. A bankruptcy court order is appealed first to the relevant federal district court and then to the relevant court of appeals.

interpretations may vary concerning the extent to which post-petition response costs incurred by EPA under CERCLA with respect to property of the bankruptcy estate may be entitled to administrative priority. Businesses may generally file for bankruptcy protection in a bankruptcy court in a state either in which (a) their facilities are located or (b) they are incorporated. In fact, many businesses file for bankruptcy protection in the second and third circuits, which include Delaware and the Southern District of New York.

EPA has established a bankruptcy work group comprised of several EPA headquarters staff members, along with one or two staff members from each of the 10 regions, many of whom are Superfund enforcement attorneys who handle bankruptcy matters as a collateral duty. The work group helps identify bankruptcy cases in which EPA may have a claim and assists in resolving other issues that involve contaminated property or otherwise affect EPA's interests in bankruptcies, among other things. In addition, several Justice Department attorneys participate in the work group.

## The Number of Business Bankruptcies Involving Environmental Liabilities Is Not Known

Information on the number of bankruptcies involving environmental liabilities is very limited. For example, while the bankruptcy courts collect data on the number of businesses that file for bankruptcy each year and the Administrative Office of the U.S. Courts maintains these data in a national database, neither the courts, EPA, nor private providers of business data collect information on how many of these businesses have environmental liabilities.<sup>34</sup> Thus, although national bankruptcy data show that 231,630 businesses operating in the United States filed for bankruptcy in fiscal years 1998 through 2003—an average of about 38,600 businesses a year—how many of these had environmental liabilities is not known. Currently, information on bankrupt businesses with federal environmental liabilities is limited to data on the bankruptcy cases that the Justice Department has pursued in court on behalf of EPA and other agencies, such as the Department of the Interior. In fiscal years 1998 through 2003, the Justice Department filed 136 such claims, 112 of which related to hazardous waste liabilities under Superfund and RCRA. The gap in data between businesses that file for bankruptcy and those with environmental liabilities that the Justice Department has pursued in court is large: what is not known is how

<sup>34</sup>Private sources of data on business bankruptcies include companies such as Dun and Bradstreet and Moody's Investors Service.

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many of the other 231,494 businesses that filed for bankruptcy during this time period had environmental liabilities.

EPA may learn of bankruptcy filings that involve environmental liabilities in various ways—for example, from the businesses themselves or from other federal or state agencies. However, the most systematic notification is from the bankruptcy courts. These courts mail notices of filings to EPA when the agency is listed as a creditor in the bankruptcy filing.<sup>35</sup> Although EPA reviews information about the businesses identified in the bankruptcy notices to determine whether it should request the Justice Department to pursue an environmental claim in the bankruptcy proceedings, the agency does not keep records on the bankruptcy filings it has researched, its basis for deciding whether to pursue a claim related to environmental liabilities, or the characteristics of the businesses involved, such as industry type. Among the factors EPA considers in deciding whether to pursue a claim in bankruptcy court is whether the debtor has any assets remaining to be divided among creditors. In many cases, particularly when the company is ceasing operations under chapter 7, EPA decides not to pursue a claim in bankruptcy court because it concludes that the business involved has few, if any, remaining assets. Similarly, EPA may choose not to pursue a claim when the claim is small relative to the resources needed for the government to pursue it.

According to EPA officials, the agency does not routinely collect or maintain information on the bankruptcy cases it reviews but decides not to pursue in bankruptcy because of the volume of bankruptcy notices it receives—including many that do not involve EPA liabilities—and the limited resources available to track such information. While EPA would incur a cost to routinely collect and maintain information about bankruptcies involving environmental liabilities—including those that EPA decides not to pursue—such information would be useful as a management tool, for example, in identifying (1) the types of businesses that have avoided or limited their environmental liabilities by filing for bankruptcy protection and (2) individual business owners who have a history of filing for such bankruptcy protection.

The 112 companies with hazardous waste liabilities that the Justice Department pursued in bankruptcy court between 1998 and 2003 represent a variety of industries, including some that could be expected to have

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<sup>35</sup>These notices may be sent to EPA regional offices or to EPA headquarters.



significant environmental liabilities, such as chemical companies, metal finishers, hazardous waste recyclers, and paper mills. Other companies, such as Fruit of the Loom and Kmart Corporation, represent industries not immediately associated with a great likelihood of creating environmental liabilities.<sup>36</sup> Most of the companies for which the Justice Department filed a bankruptcy claim on behalf of EPA were undergoing reorganization in bankruptcy rather than liquidating and going out of business. Further, 100 of the cases involved liabilities under the Superfund program, and 12 involved liabilities under RCRA.<sup>37</sup> As of February 2005, 35 of the 112 bankruptcy cases the Justice Department pursued had essentially been completed, and more than half—59—were still ongoing. For example, W. R. Grace and Company and many of its subsidiaries filed for bankruptcy under chapter 11 in April 2001, and this bankruptcy case is still under way as of July 2005. The remaining 18 cases were dismissed by the bankruptcy court for various reasons. In such cases, EPA and other creditors are no longer barred from pursuing claims against these businesses directly. However, EPA may have little success in recovering costs or ensuring compliance with environmental responsibilities if these businesses are, in fact, financially distressed.

Over time, the current information gap that exists between businesses filing for bankruptcy and the subset of those for which the Justice Department files an environmental claim in bankruptcy court may be reduced because of new filing requirements that became effective recently. Since 2003, bankruptcy petitions and the accompanying Statement of Financial Affairs have required companies filing for bankruptcy to provide information identifying sites they own or possess that have actual or potential environmental problems, including any sites that pose or

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<sup>36</sup>Fruit of the Loom, a leading international apparel company, filed for bankruptcy in 1999. The company's significant environmental obligations principally pertain to environmental management and cleanup costs at seven sites owned by a related corporation, formerly owned by Fruit of the Loom. Kmart Corporation, one of the largest discount retailers in the United States, had environmental liabilities associated with disposal of hazardous waste products from its auto repair shops when it filed for bankruptcy in 2002.

<sup>37</sup>Some of the cases cover environmental liabilities under both Superfund and RCRA and some cases also include claims under other environmental laws, such as the Clean Water Act or the Clean Air Act.

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allegedly pose an imminent threat to public health and safety.<sup>38</sup> However, this additional environmental information is not yet readily available electronically from the 90 bankruptcy courts in the United States. That is, the systems cannot be queried to identify filings with information on sites with environmental liabilities. However, EPA has sought assistance in this regard from the U.S. trustees who participate in all bankruptcy cases except those filed in Alabama and North Carolina.<sup>39</sup> In August 2004, the Acting General Counsel, Executive Office for U.S. Trustees, sent a memorandum to all U.S. trustees instructing them to coordinate with EPA in bankruptcy cases involving contaminated property.

The trustees are to alert the appropriate EPA contact by email when they become aware of an affirmative response to the questions asking petitioners to identify sites with actual or potential environmental liabilities, and to attach the bankruptcy petition and appropriate schedules. EPA officials told us that they have received some notifications from U. S. trustees since this August 2004 memorandum.

Because these environmental disclosure requirements are relatively new, little is known about the thoroughness and accuracy of the data on environmental liabilities that companies in bankruptcy have submitted to the courts. We note that the information businesses provide about their environmental liabilities would likely be subject to the same data quality issues as other self-reported data. For example, studies on other bankruptcy filing information from debtor companies, such as information on assets and liabilities, have found that such self-reported data tend to be flawed.<sup>40</sup> Consequently, it is too soon to know the extent to which this

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<sup>38</sup>Specifically, the Statement of Financial Affairs requires that companies filing for bankruptcy identify every site for which they have received a notice of potential environmental liability or reported a release of a hazardous substance. They must also identify all legal proceedings under any environmental law to which they have been a party. In addition, Exhibit C of the bankruptcy petition requires that debtors identify any property they own or possess that poses, or is alleged to pose, a threat of imminent harm to public health or safety. However, according to EPA officials, debtors rarely complete Schedule C.

<sup>39</sup>The U.S. Trustees program, a component of the Justice Department, is responsible for overseeing the administration of bankruptcy cases in all but two states. The program has 21 regional U.S. Trustees offices and an executive office in Washington, D.C. The Administrative Office of the U.S. Courts, part of the judicial branch, oversees the administration of cases filed in bankruptcy courts in Alabama and North Carolina.

<sup>40</sup>For example, see Jennifer Connors Frasier, "Caught in a Cycle of Neglect: The Accuracy of Bankruptcy Statistics," *Commercial Law Journal* (Winter 1996).

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additional information provided to bankruptcy courts will help fill the existing data gap relating to bankrupt companies with environmental liabilities.

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## **EPA Faces Significant Challenges When Seeking to Hold Businesses Responsible for Their Cleanup Obligations, Particularly Businesses in Bankruptcy and Other Financial Distress**

In its efforts to hold businesses responsible for their cleanup obligations, particularly when they are in bankruptcy or other financial distress, EPA faces significant challenges, often stemming from the differing goals of environmental laws that hold polluting businesses liable for cleanup costs and other laws that, in some cases, allow businesses to limit or avoid responsibility for such liabilities. Further, the complexities of the federal bankruptcy code and its associated procedures, along with the complexities of the environmental cleanup process and EPA's many information needs when dealing with bankruptcies, present challenges to EPA's ability to hold businesses responsible for their environmental cleanup obligations.

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## **Businesses Can Organize and Restructure Themselves in Ways That May Allow Them to Limit Their Expenditures for Environmental Cleanups**

A key legal attribute of corporations is that the liability of their owners—the shareholders—is limited. That is, corporations are liable for the debts and obligations of their businesses, while the shareholders are liable only for what they have invested. Aimed at encouraging shareholder investment to generate capital, the limited liability principle enables corporations to engage in enterprises that might not attract sufficient funding if shareholders were not protected in this way. Shareholders generally include individuals, corporations, and unincorporated business forms, such as partnerships.

Many businesses take advantage of this limited liability principle to protect their assets by using a parent and subsidiary corporate structure in which the subsidiary is largely or wholly owned by the parent corporation—in other words, the parent is the subsidiary's shareholder. For example, using this structure, a subsidiary that is engaged in a business that is at risk of incurring substantial liability, such as mining or chemical manufacturing, can protect its assets by transferring the most valuable ones—such as equipment and patents—to a related entity, such as the parent or other subsidiary engaged in less risky endeavors. The high-risk subsidiary can continue to use the transferred assets, as appropriate, by leasing or renting

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them. It has become common practice for experts in asset protection to recommend that corporations protect their assets in this way. A goal is to continually draw down on the subsidiary's remaining assets, such as cash from the sale of equipment, to pay operating expenses, including rental and lease payments and salaries. If a liability arises, under the limited liability principle, the high-risk subsidiary's remaining assets may be reached—but generally not those of the parent corporation or other subsidiaries to which assets were transferred. And if the subsidiary incurs an environmental liability and does not have sufficient resources to fund the cleanup, the burden for the cleanup may be shifted to taxpayers. For example, the subsidiary could plead financial hardship, and under its ability-to-pay process, EPA may reduce the amount of funding the subsidiary has to provide, with the balance coming from the Superfund trust fund in the absence of other liable parties. Alternatively, the subsidiary could seek reorganization under the bankruptcy act, which could result in the discharge of the liability.

While these asset protection strategies are generally legal depending on the circumstances, it is generally unlawful to transfer assets with the intent to hinder or defraud creditors. Under federal bankruptcy law, a transfer may be invalidated if it occurred within 1 year prior to the bankruptcy filing and if the transfer (1) occurred with the intent to defraud creditors or (2) in certain circumstances yielded less than reasonably equivalent value for the debtor.<sup>41</sup> In addition, most states have enacted the Uniform Fraudulent Transfer Act, which contains prohibitions on fraudulent transfers analogous to the bankruptcy provision. Creditors generally must seek to invalidate such transfers within 4 years of their occurrence.

Perhaps for these reasons, publications by financial and legal advisors have suggested that asset transfers be implemented in stages over time to avoid

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<sup>41</sup>EPA officials noted the agency's recent participation in a successful challenge to a fraudulent transfer associated with an ongoing bankruptcy case. The Department of Justice, on behalf of EPA, intervened in an action brought against Sealed Air Corporation by the official bankruptcy committees representing personal injury and property damage claimants of W.R. Grace. The committees contended that (1) the sale of one of W.R. Grace's divisions was fraudulent under New Jersey's fraudulent transfer statute because W.R. Grace was not paid a reasonably equivalent value for the Sealed Air division and (2) W.R. Grace was rendered insolvent by the transaction. In its complaint, Justice alleged a fraudulent transfer claim under the Federal Debt Collection Procedures Act against Sealed Air Corporation. The Justice Department was granted leave to intervene to specifically assist with the fair valuation of environmental liabilities at the time of the contested transaction. According to EPA, the parties have reached a settlement agreement, which includes cash and stock valued at more than \$1 billion, that has been submitted to the bankruptcy court for approval.

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calling attention to them.<sup>42</sup> The goal is to make them indistinguishable from ordinary business decisions and transactions and to implement them as early as possible, preferably well in advance of claims. From an asset protection standpoint, this approach makes sense because it helps protect transfers from legal challenges by the mere passage of time. However, the use of such strategies by parties liable for environmental cleanups presents a significant challenge to EPA in obtaining cleanup costs because it is hard for the agency to know about such transfers, much less obtain sufficient information to successfully challenge them within the time permitted by law or to challenge businesses' claims that paying the cleanup costs represents an undue economic hardship. Further, because businesses typically are aware of Superfund liabilities for many years before they actually have to fund the cleanups, they have ample time to reorganize and structure themselves in ways that can limit the expenditures they may be required to make in the future. For example, it is not unusual for it to take 10 or more years in total for sites to be placed on the National Priorities List, for cleanup remedies to be selected, and for the cleanups to be conducted.

In addition, to protect assets even further, businesses may be structured with multiple organizational layers—beyond the two-tier parent/subsidiary construct—as well as with different types of corporate entities, such as limited liability companies. As outlined in a recent book on asset protection, dispersing assets among as many different types of entities and jurisdictions as possible is also a useful way to protect them from creditors.<sup>43</sup> The goal of this approach is to create complex structures that, in effect, provide multiple protective trenches around assets, making it challenging and burdensome for creditors to pursue their claims. Because it is easier and less costly to set up and maintain limited liability companies than corporations, this relatively new hybrid form of business organization facilitates the establishment of complex, multi-layered businesses using corporations and limited liability companies.<sup>44</sup>

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<sup>42</sup>For example, see *Asset Protection: Concepts and Strategies for Protecting Your Wealth*, Jay D. Adkisson and Christopher M. Riser, McGraw-Hill, 2004.

<sup>43</sup>*Ibid.*

<sup>44</sup>From a regulatory standpoint, limited liability businesses can be more difficult to monitor than corporations because they are required to provide only limited information to the public.

Creditors may go to court to obtain the assets of a corporation's shareholders (including, for example, a parent corporation) to satisfy the corporation's debts. This is called "piercing the corporate veil," and it is difficult to achieve.<sup>45</sup> EPA occasionally attempts to secure cleanup costs from a parent corporation under a veil-piercing theory. However, these cases are extremely complex and resource intensive, according to EPA officials. The strategy recommended to businesses to use multiple organizational layers to protect assets recognizes this challenge and seeks to make any challenge as difficult and costly as possible. Along these lines, an EPA enforcement official—who said that EPA is seeing more and more cases in which companies are restructuring using various layers and thereby shielding corporate assets—noted that the "transaction cost" for EPA to try to follow such cases to ensure that these companies satisfy their environmental liabilities can be prohibitively high.

Finally, some EPA officials stated that a 1998 Supreme Court case has further complicated efforts to obtain cleanup costs from parent corporations. Under the Superfund law, past and present owners and operators are among the parties generally liable for cleanup costs at a contaminated site. The Supreme Court decision in *United States v. Bestfoods* held that a corporate parent could be liable (1) indirectly (as an owner) if the corporate veil could be pierced; and (2) directly (as an operator) if the corporate parent actively participated in, and exercised control over, the operations of the contaminated facility itself.<sup>46</sup> The *Bestfoods* decision confirmed that the government could hold a parent corporation directly liable under the Superfund law for a subsidiary's cleanup costs under certain circumstances. However, EPA officials noted that prior to the *Bestfoods* decision, some courts had found a parent corporation liable where it exercised control over the subsidiary even if the parent did not control the contaminated facility. In addition, while the *Bestfoods* case recognized that the government could hold a parent corporation directly liable under the Superfund law, these officials stated that the case also helped establish a road map for observing corporate formalities that companies could follow to insulate themselves from this liability.

<sup>45</sup>For example, the Supreme Court has stated that "Ordinarily a corporation which chooses to facilitate the operation of its business by the employment of another corporation as a subsidiary will not be penalized by a judicial determination of liability for the legal obligations of the subsidiary." *United States v. Bestfoods*, 524 U.S. 51, 61 (1998).

<sup>46</sup>524 U.S. 51 (1998).



## Legal and Informational Challenges Constrain EPA's Ability to Hold Businesses in Bankruptcy Responsible for Their Cleanup Obligations

An obvious challenge that EPA faces when it attempts to ensure that businesses in bankruptcy carry out their environmental cleanup obligations is that the businesses may have little or no financial resources to pay EPA or any other creditors. However, EPA faces further challenges when companies file for bankruptcy, stemming from the differing goals of the bankruptcy code and federal environmental laws, the complexities of bankruptcy procedures and environmental cleanup programs, and EPA's many information needs when dealing with bankruptcies.

## Differing Statutory Goals and Program Complexities Present EPA with Challenges

Federal bankruptcy and environmental laws seek to address vastly different problems using solutions that frequently come into conflict. Specifically, while environmental laws generally impose cleanup costs on the parties responsible for pollution, one purpose of bankruptcy law is to give the debtor a fresh start by discharging existing claims against the debtor, including environmental claims in some cases. For example, when businesses with liability under the Superfund law file for bankruptcy protection, payment of cleanup costs may be nonexistent or substantially reduced in some cases, depending in part on the type of financial assurance the businesses agreed to provide under settlement agreements to meet the obligations.<sup>47</sup> As a result, cleanup costs may be shifted to the general public, especially when the site has no other liable parties.<sup>48</sup>

The inherent conflict between the goals of environmental cleanup laws and the bankruptcy code represents only the first of several key challenges EPA faces in attempting to hold businesses in bankruptcy responsible for their environmental cleanup obligations. For example, conflicts relating to the

<sup>47</sup>As discussed in the next section of this report, some financial assurances that businesses provide to EPA to show their ability to meet their financial obligations make specific funds available to EPA for cleanups in the event businesses default, while others do not. However, if the party with Superfund liabilities has not reached a settlement agreement with EPA, it is not required to provide a financial assurance. Moreover, enforcing financial assurance requirements against bankrupt parties under Superfund may be more difficult than under programs such as the RCRA closure/post-closure program that have comprehensive financial assurance regulations in place. See, e.g., *Safety-Kleen v. Wyche*, 274 F.3d 846, 864-65 (4th Cir. 2001) (upholding state enforcement of RCRA closure/post-closure financial assurance regulations against a party in bankruptcy).

<sup>48</sup>At some Superfund NPL sites, such as large hazardous waste landfills, there may be hundreds or even thousands of liable parties from whom EPA may attempt to obtain cleanup costs. If one liable party at such a Superfund site files for bankruptcy, EPA may compel other liable parties to pay for the cleanup rather than having to turn to taxpayers for funding. However, EPA will not do so when it believes seeking such payments would be inequitable under the circumstances.

timing of events can have a significant impact on EPA's ability to recover costs in bankruptcy proceedings. One timing issue relates to the interpretations by various bankruptcy courts of when an environmental liability arises as a claim subject to discharge in bankruptcy. For example, bankruptcy courts in the Second Circuit<sup>49</sup>—where many chapter 11 bankruptcies are filed—generally hold that a claim arises when a release of a hazardous substance into the environment (such as a spill) occurs.<sup>50</sup> In many bankruptcy cases involving responsible parties under Superfund, the relevant releases took place prior to the filing of the bankruptcy petition, making all claims for such releases subject to discharge even if EPA has not yet incurred cleanup or other response costs.

Another challenge EPA faces is the need to provide timely estimates of cleanup costs that will form the basis for claims. Bankruptcy courts aim to resolve cases expeditiously and set specific time frames for proceedings, but it can be difficult for EPA to estimate the dollar amount of cleanup work needed at sites within the court's time frames. In particular, Superfund sites often require long-term investigations to both identify the nature and extent of contamination and to develop cleanup requirements and cost estimates. For many Superfund NPL sites, these processes may take a number of years. Depending upon where EPA is in these processes, it may be challenging to provide an estimate of future cleanup costs. For example, the extent of contamination may still be unknown or the cleanup remedy may not yet have been determined. Nonetheless, the Justice Department must submit a "proof of claim" in the bankruptcy court in order for EPA to have a chance for any cost recovery. With incomplete information regarding future cleanup costs, EPA may underestimate these costs in its claims to bankruptcy courts. Further, if EPA provides a cost estimate that the court rejects because it considers the estimate to be speculative, or if EPA does not have the time or resources to develop an estimate to support its bankruptcy claim, the government can lose any opportunity to recover at least some of the cleanup costs for such sites.<sup>51</sup>

<sup>49</sup>The Second Circuit includes the states of Connecticut, New York, and Vermont.

<sup>50</sup>Other courts have considered a broader array of factors in deciding whether a claim subject to discharge has arisen, e.g., *Matter of Chicago, Milwaukee, St. Paul, and Pacific R. Co.*, 974 F.2d 775, 782-86 (7th Cir. 1992).

<sup>51</sup>When a debtor in a chapter 11 bankruptcy continues to own the site under the reorganization plan, EPA may hold the reorganized company responsible for cleanup costs incurred after the bankruptcy ends, but not for those incurred prior to the court's acceptance of the reorganization plan.

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Provided that EPA is able meet these challenges and develops a supportable claim for the Justice Department to file in the bankruptcy case, provisions of the bankruptcy code may result in the claim being assigned a low status in the distribution of the debtor's assets. Many of EPA's claims may be considered general unsecured claims—the last to be paid after claims for creditors holding secured and priority unsecured claims have been paid. Further, although EPA may submit a claim for environmental penalties and/or fines, under chapter 7, these claims may rank even lower than most other unsecured claims. In some cases, a bankruptcy judge may deem certain EPA claims to be entitled to priority as administrative expenses—for example, if the expenses were incurred to address conditions endangering public health and the environment. Often, however, insufficient funds are available from the bankruptcy estate to pay cleanup and/or closure costs, or they provide only “pennies on the dollar” of the claims amounts when a debtor's assets are distributed. In these cases, the responsibility for cleaning up a Superfund site or closing and monitoring an RCRA hazardous waste facility may fall to EPA or a state agency unless, for example, other liable parties pay the cleanup costs or sufficient financial assurances are in place to cover these costs.

Another important challenge facing EPA in bankruptcy cases results from the automatic stay provision, which preserves the status quo during bankruptcy proceedings, both giving debtors a “breathing spell” from their creditors and preventing the piecemeal distribution of a debtor's remaining assets in ways that could be preferential to some creditors and detrimental to others. However, the bankruptcy code expressly allows an exemption from the automatic stay for a governmental unit to begin or continue a proceeding to enforce its police or regulatory power, or to carry out a court judgment (other than a money judgment) to enforce its police or regulatory power. If EPA can successfully argue that the environmental proceedings fall within this exception to the stay, it can take action in federal district court while the bankruptcy proceedings continue. If EPA is unsuccessful in avoiding the automatic stay, it must pursue the claim in the bankruptcy court, along with other creditors. The key to when a court will permit an environmental action to avoid application of the automatic stay is how the court defines the phrase “money judgment.”

As we reported in 1986, the stay can interfere with efforts of federal and state agencies to ensure that owners carry out their environmental responsibilities, such as cleaning up and properly closing hazardous waste

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facilities according to RCRA requirements.<sup>52</sup> For example, although companies undergoing liquidation under chapter 7 are required to comply with federal and state environmental laws to the same extent as any other party, they may argue that the automatic stay allows them to avoid expending funds to carry out compliance actions. Companies reorganizing under chapter 11 are also obliged to comply with environmental laws while they are in bankruptcy proceedings even if it requires the debtor to incur additional expenses. Moreover, EPA enforcement officials noted, during a company's period of reorganization under chapter 11, EPA can pursue administrative expense penalties if the company continues to operate in violation of environmental laws, and has in some cases been successful in this regard. However, an EPA enforcement official also noted that the agency has limited leverage to ensure that such companies continue facility closures, site cleanups, and other environmental responsibilities during the bankruptcy proceedings—that can take years to complete—unless EPA can convince a bankruptcy judge that a company must carry out these activities to address an imminent threat to human health or the environment.<sup>53</sup>

The automatic stay also prevents creditors, such as federal and state agencies, from immediately collecting on certain court judgments. Thus, while courts may order businesses to pay environmental fines and/or cleanup costs to EPA, the government's ability to collect these payments may be reduced or negated by bankruptcy filings. For example, in August 2003, W.R. Grace and Company, the primary liable party at the Libby Asbestos Superfund site in Libby, Montana, was ordered by a U. S. district court to reimburse EPA \$54.5 million for costs the agency had incurred in investigating and conducting certain emergency cleanup actions at the site.<sup>54</sup> (Total long-term cleanup costs at this site are expected to rise to at least \$179 million.) However, because W.R. Grace filed for bankruptcy protection in 2001 and is protected by the automatic stay, the company does not have to pay this judgment until the reorganized company emerges

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<sup>52</sup>GAO, *Hazardous Waste: Environmental Safeguards Jeopardized When Facilities Cease Operating*, [GAO/RCED-86-77](#) (Washington, D.C.: Feb. 11, 1986).

<sup>53</sup>As noted above, the bankruptcy code includes an exception to the automatic stay, known as the police and regulatory powers exception, which can permit certain environmental enforcement actions to proceed during bankruptcy despite the automatic stay. Thus, EPA can continue compliance enforcement efforts outside the bankruptcy proceedings.

<sup>54</sup>W.R. Grace appealed this ruling in November 2003. The case was still pending before the U.S. Circuit Court of Appeals for the Ninth Circuit as of June 2005.

from bankruptcy.<sup>55</sup> Moreover, EPA officials noted that because any reimbursement of the \$54.5 million will be subject to the repayment terms agreed to in the company's reorganization plan, it has not yet been determined how much the federal government will be reimbursed for these cleanup costs. However, according to the lead EPA attorney working on this case, it is likely that creditors, including EPA, will receive a substantial return in this bankruptcy case once the company's reorganization plan has been confirmed by the court.<sup>56</sup> In the meantime, according to EPA, the agency continues to pay for and oversee the cleanup work to address the most hazardous conditions at the site, at an estimated cost to taxpayers of \$18 million per year over the past several years.

#### Information Gaps Regarding Bankruptcies Also Present EPA with Challenges

In evaluating bankruptcy filings to determine whether EPA should request that the Justice Department pursue cases in bankruptcy court, EPA faces further challenges because it does not consistently have accurate and readily available information on which to base these evaluations. As a result, EPA cannot be assured that it is aware of all relevant bankruptcy filings.

EPA officials have acknowledged that the agency could miss identifying some relevant bankruptcy cases. According to the chair of EPA's bankruptcy work group, one of the more common reasons EPA is likely to miss identifying some relevant bankruptcies is that the debtor fails to include EPA on its list of creditors in bankruptcy filings, which means that bankruptcy courts will not send the notices of bankruptcy filing that are routinely sent to creditors to inform them of the filings. In addition, EPA could also miss relevant bankruptcy cases for other reasons, including the following:

- Because businesses may change their names over time for various reasons—including reorganizations and mergers—and because a business filing for bankruptcy may be affiliated with a number of different company names, EPA staff may not recognize the business

<sup>55</sup>W.R. Grace and Company filed for protection under chapter 11 of the bankruptcy code in April 2001 and remains in bankruptcy as of June 2005.

<sup>56</sup>According to this EPA attorney, W. R. Grace has proposed a plan of reorganization, which is moving through the confirmation process by the bankruptcy court, that would pay all creditors, including EPA, 100 percent of claims allowed by the court. However, the plan may not be approved as proposed, this official noted; thus, EPA and other creditors may not receive the full amount of their allowed claims.

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name or names cited in bankruptcy filings. In addition, owners of businesses sometimes file for bankruptcy in their own names, rather than in the business names, which EPA may be more likely to recognize.

- Data quality problems in EPA's Superfund database limit the usefulness of automated searches to match the businesses associated with the bankruptcy notices sent to EPA with businesses with environmental liabilities nationwide.<sup>57</sup> Further, even if EPA staff search program and enforcement databases to identify contaminated sites associated with a company, the searches may not be reliable because the current name or names associated with the bankruptcy filing may not be reflected in EPA's databases. For this reason, some EPA staff do not routinely search these databases for such matches because the information is likely to be incomplete or outdated. However, EPA's most recent bankruptcy guidance, discussed later, recommends that staff search the Superfund and other relevant databases to help them determine whether an environmental claim or issue of interest is involved.
- EPA officials said that the agency has some difficulty identifying from its program and enforcement databases which companies have large liabilities, particularly when those liabilities are dispersed across states in several regions. As a result, certain companies in bankruptcy may not capture EPA's attention as being worthwhile cases for the government to pursue.

Overall, EPA's current system of identifying bankruptcies of concern to the agency relies heavily on the availability of staff with knowledge of the companies and their related environmental liabilities to identify cases that the agency should pursue in bankruptcy court in time to meet the court's deadlines. Although the chair of EPA's bankruptcy work group believes that their current approach to timely identification of relevant bankruptcies has worked well under these limitations, she acknowledged that EPA has no assurance that it has not missed some relevant bankruptcies. As discussed above, EPA does not maintain records on all bankruptcy cases that the agency has identified and researched, and the reason the cases were either pursued in bankruptcy court or not. Consequently, information to evaluate EPA's efforts in identifying and researching relevant bankruptcies is not

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<sup>57</sup>EPA, Office of Inspector General, *Information Technology: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality*, 2002-P-00016 (Washington, D.C.: Sept. 30, 2002).



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available. Further, because the bankruptcies of small and medium-sized businesses are not as widely reported in the business press, EPA is more at risk of not identifying relevant bankruptcies of such companies.

Some members of EPA's bankruptcy work group noted that, in their view, developing a fail-safe system for identifying relevant bankruptcies could require significant additional resources and might not be a cost-effective endeavor. For example, in many bankruptcy cases there may be few, if any, assets available for distribution to creditors. Nonetheless, on May 10, 2005, EPA issued an interim protocol for coordination of bankruptcy matters under the Superfund program that, among other things, (1) recommends actions to better ensure that EPA receives relevant bankruptcy notices and (2) identifies additional actions that may be relevant in bankruptcy cases other than filing claims, such as opposing abandonment of contaminated properties and objecting to terms of plans of reorganization or sales of property. Further, available technologies, such as an EPA Intranet site, could be an efficient and effective tool for the agency to track bankruptcy cases it identifies and reviews. For example, such a site could contain an EPA data sheet on each bankruptcy case identified, as well as key court documents as appropriate and available, that would be readily accessible to EPA staff across the agency to review and update.

Even when EPA identifies relevant bankruptcy filings to assess, the agency is hampered by other information limitations. For example, as previously discussed, in many cases, EPA does not yet have adequate information on the extent of contamination at relevant sites and has difficulty in developing supportable cleanup cost estimates for the claim in the bankruptcy case. In other cases, the bankruptcy filings include lengthy lists of sites, some of which EPA may have no information about, including whether there is any liability under federal environmental law. Lack of information about sites can present challenges to EPA in negotiating bankruptcy settlement agreements with large companies, such as Exide Technologies and Kaiser Aluminum, which cover numerous contaminated sites. An EPA attorney who worked on the Kaiser Aluminum case said that the tight time frames under which they had to obtain information about the relevant contaminated sites and the significantly larger resources the company had to support its negotiations made this effort challenging.

Another challenge EPA faces is that companies may send EPA notice of their bankruptcy filings identifying sites with no related enforcement actions. According to an EPA official, if a company provides EPA with notice of its bankruptcy filing and EPA does not submit a proof of claim in

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the bankruptcy court—likely in this situation since EPA would not be aware of any environmental hazard—the claim could be discharged in the bankruptcy process.<sup>58</sup> Consequently, reviews of the environmental disclosures in Exhibit C of the debtor’s bankruptcy petition and the Statement of Financial Affairs are important to identify those sites for which EPA may file a claim as well as those sites about which the agency has no knowledge and can potentially challenge discharge requests to the bankruptcy court.<sup>59</sup> We note that EPA’s May 10, 2005, interim bankruptcy protocol recommends that the agency’s bankruptcy coordinators review these documents in determining whether an environmental claim or issue of interest is involved.

Finally, it is a challenge for EPA to have timely and accurate information to identify those instances in which fraudulent transfers of assets may have occurred and which a bankruptcy court would nullify if such transfers were brought to its attention. Generally, EPA has limited, if any, information on the complex organizational structures businesses may be using and on any transfers among entities that may have taken place. Similarly, information is not readily available about privately held corporations or limited liability companies—an organizational form being used by many businesses. For instance, limited liability companies registered in Nevada do not have to provide information about all of the owners, making it difficult for EPA or others to identify transactions among related companies that may be illegal. Because the liable parties often are aware of environmental liabilities for years before they must pay for the cleanups, they have time to reduce their net worth by making business decisions that result in the redistribution of assets—and thus make these resources unavailable for payment of environmental liabilities. According to an EPA enforcement official, it is extremely difficult for the agency to look back on the business decisions a company has made over three or more years to determine whether its actions may have been fraudulent.

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<sup>58</sup>According to EPA, this occurs because some courts have held that a claim for cleanup costs arises under the Superfund law when a hazardous substance release (e.g., leakage from buried drums) occurs, regardless of whether the release was detected before the bankruptcy filing and whether EPA has actually incurred any costs; other courts have not adopted this view of when a claim arises.

<sup>59</sup>Along these lines, an August 1999 United States Attorneys publication noted that if some companies succeed in using bankruptcy to shed environmental liabilities of which EPA is not yet aware, their competitors may also file for bankruptcy reorganization to obtain the same business advantage. See United States Attorneys’ Bulletin, *Environmental Issues in Bankruptcy Cases: Protecting the Public Interest from Overzealous Debtors*, August 1999.

## EPA Could Make Greater Use of Available Authorities and Enforcement Tools to Pursue Hazardous Waste Cleanup Costs from Bankrupt and Other Financially Distressed Businesses

EPA has authorities and enforcement tools that it could use more fully to obtain cleanup costs from liable businesses, especially those in bankruptcy or other financial distress. Specifically, EPA has not implemented a 1980 statutory mandate under the Superfund law to require that businesses handling hazardous substances maintain financial assurances that would provide evidence of their ability to pay to clean up potential spills or other environmental contamination that could result from their operations. As a result of EPA's inaction, the federal treasury continues to be exposed to potentially enormous cleanup costs associated with businesses not currently required to provide financial assurances. Also, although EPA requires financial assurances from businesses entering into settlement agreements and orders under Superfund and, as a matter of policy, includes them in settlement agreements and orders under RCRA, the agency has done little to ensure compliance with these requirements. EPA has on occasion used other enforcement authorities, including (1) obtaining offsets, which allow the government to redirect payments or tax refunds it owes businesses to federal agencies with claims against these businesses and (2) filing liens on property for which the government has incurred expenses under Superfund.<sup>60</sup> Greater use of these authorities could produce additional payments for cleanups from liable businesses, even in bankruptcies.

## EPA Has Not Implemented a Statutory Mandate under Superfund to Establish Financial Assurance Requirements for Certain Businesses Handling Hazardous Substances

Despite a requirement to do so in the 1980 statute creating the Superfund program, EPA has not issued regulations requiring certain businesses that handle hazardous substances to demonstrate their ability to pay for environmental cleanup costs.<sup>61</sup> Specifically, the statute required EPA to issue requirements "that classes of facilities establish and maintain evidence of financial responsibility consistent with the degree and duration of the risk associated with the production, transportation, treatment, storage or disposal of hazardous substances."

Such regulations could help to fill several significant gaps in EPA's environmental financial assurance coverage, thereby reducing the risk that the general public (i.e., taxpayers) will eventually have to assume financial responsibility for cleanup costs. One gap involves types of waste that are

<sup>60</sup>A lien is a claim against property for the payment of a debt or obligation.

<sup>61</sup>Section 108(b)(1) of CERCLA.

excluded from RCRA coverage. Some wastes associated with mining activities can result in substantial cleanup costs but are excluded from the definition of hazardous wastes and, therefore, are not regulated under RCRA's hazardous waste provisions. A second gap in EPA's financial assurance coverage is that hazardous waste generators (such as metal-plating facilities and dry cleaners) are generally not required to maintain any financial assurances. Specifically, businesses may generally store waste in compliance with specified requirements for up to 90 days without needing a permit or being subject to the regulations governing hazardous waste storage facilities. Finally, a third gap is that none of EPA's current financial assurance regulations require companies or industries that pose a significant risk of environmental contamination to provide assurance that they could meet cleanup obligations associated with future accidents or spills of hazardous substances or wastes.<sup>62</sup> These gaps may be more significant since the authority for an environmental tax on corporations, crude oil, and certain chemicals, which had largely funded the Superfund program, expired in 1995. As a result, the federal government's general appropriations fund is increasingly funding the cleanups paid for by the Superfund trust fund when responsible parties do not. For example, for fiscal year 2004, EPA's appropriation for the Superfund program was from general revenues only.<sup>63</sup>

Regarding the financial assurance requirements in the Superfund statute, which could help to address these gaps, the statute requires EPA to develop financial assurance regulations for businesses handling hazardous substances. As previously noted, EPA was to use a risk-based approach for both (1) identifying the entities that would be covered and (2) specifying the financial assurance coverage they would be required to have.<sup>64</sup> The law requires EPA to give priority in developing these requirements to those

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<sup>62</sup>RCRA's closure and post-closure financial assurances cover normal costs of closing and conducting post-closure care, and do not cover cleanups stemming from accidental releases. The financial assurance regulations also require regulated facilities to carry third-party liability insurance, but these policies only cover third-party bodily injury and property damage from hazardous releases, not the actual cleanup costs.

<sup>63</sup>In addition to the appropriated funds in fiscal year 2004, EPA officials noted that \$148 million was deposited into Superfund special accounts, which receive payments from liable parties for past and future cleanup costs.

<sup>64</sup>The provision calls for the use of essentially the same financial assurance mechanisms allowed under the RCRA regulations for financial assurance for the costs of closure and post-closure care of hazardous waste facilities. See table 1 for a description of these mechanisms.

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classes of facilities, owners, and operators that the agency determined present the highest level of risk of injury. Once identified, the different classes of facilities that handle hazardous substances—which could, for example, include all businesses in a given industry or all those handling a specific hazardous substance—would be required to maintain evidence of financial ability to cover actual and potential cleanup costs consistent with the degree and duration of risk associated with the production, transportation, treatment, storage, or disposal of hazardous substances.<sup>65</sup>

Implementation of this requirement could help to close the financial assurance gaps discussed above because under the Superfund law EPA could require financial assurances for cleaning up existing and future contamination at facilities that handle hazardous substances but are not subject to RCRA's closure/post-closure or corrective action programs, including many mining sites and facilities that generate, but do not treat, store, or dispose of hazardous waste. EPA may also wish to give priority in developing these requirements to facility owners whose prior actions indicate they may pose a high risk of default on their environmental obligations. Factors EPA may wish to consider in evaluating owner risk include compliance history—such as a history of noncompliance with environmental laws, including cleanup obligations, and magnitude of past, current, and potential environmental liabilities.

In applying the Superfund law's risk-based criterion for developing financial assurance requirements, EPA may want to consider hardrock mining a high priority—for example, gold, copper, and iron ore mining—because it presents taxpayers with an especially serious risk of having to pay cleanup costs associated with wastes from thousands of abandoned, inactive, and operating mines on private lands in the United States. Using a statutory provision that allows solid waste from certain mining activities to be excluded from regulation as hazardous waste under RCRA, EPA has excluded several types of mining wastes from the definition of hazardous waste under RCRA, characterizing them as “low toxicity, high volume

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<sup>65</sup>The law requires EPA to establish a minimum level of financial responsibility the agency believes is appropriate, to be based on the payment experiences for site cleanups by the Superfund, commercial insurers, and court settlements and judgments. Further, the law specifies that if the owner or operator of a facility required to have financial assurance is in bankruptcy, any guarantor providing evidence of financial responsibility for the owner can be directly liable for releases of hazardous substances from the facility. The law also directs EPA to cooperate with the commercial insurance industry to the maximum extent practicable in developing these financial assurance requirements.

wastes.”<sup>66</sup> This exclusion has resulted in a significant gap in financial assurance, as discussed above. In addition, mining activities on private lands are not covered by the financial assurance requirements the Department of the Interior’s Bureau of Land Management (BLM) requires for mines on federal land it manages.<sup>67</sup> However, some mining facilities handle hazardous substances as defined under the Superfund law, and therefore financial assurance regulations issued under the Superfund law could apply to these facilities.<sup>68</sup>

According to the EPA Inspector General, mining sites can cause significant environmental problems, and these sites are typically large, complex, and costly to clean up. A March 2004 report by EPA’s Office of Inspector General identified 63 hardrock mining sites on the Superfund’s National Priority List (NPL) and another 93 sites with the potential of being added to the list.<sup>69</sup> At least 19 of the 63 existing NPL mining sites had estimated cleanup costs of \$50 million or more. In total, the 63 sites were estimated to cost up to \$7.8 billion to clean up, \$2.4 billion of which is expected to be borne by taxpayers rather than the parties responsible for the

<sup>66</sup>In October 1980, RCRA was amended by adding section 3001(b)(3)(A)(ii), known as the Bevill amendment, to exclude, among other things, “solid waste from the extraction, beneficiation, and processing of ores and minerals” from regulation as hazardous waste under Subtitle C of RCRA. This exclusion applied pending completion of a study and a report to Congress, and pending a determination by the EPA Administrator either to promulgate regulations under Subtitle C or to declare such regulations unwarranted. Since completing the required report, EPA has concluded that twenty mineral processing wastes qualify for the Bevill exclusion as “low toxicity, high volume wastes.” Other mineral processing wastes are regulated under Subtitle C of RCRA, provided they meet the definition of hazardous waste.

<sup>67</sup>Our report *Hardrock Mining: BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs*, [GAO-05-377](#) (Washington, D.C.: June 20, 2005) recommends ways for BLM to better manage financial assurances it requires of operators to guarantee reclamation costs if they fail to reclaim BLM-managed lands after operations cease.

<sup>68</sup>Most states with significant hardrock mining have established their own statutory programs and regulate mine activities through mine permits. However, EPA’s Inspector General has reported that some state statutes and regulations do not provide for adequate financial assurances for hardrock mines. EPA, Office of Inspector General, *EPA Can Do More to Minimize Hardrock Mining Liabilities*, E1DMF6-08-0016-7100223 (1997).

<sup>69</sup>EPA, Office of Inspector General, *Nationwide Identification of Hardrock Mining Sites*, 2004-P-00005 (Washington, D.C.: Mar. 31, 2004). The report noted that its inventory may be understated because, among other things, it did not include sites where it was too early in the evaluation process to determine whether the sites had the potential to cost the Superfund trust fund \$1 million or more.



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contamination. The EPA Inspector General reported that at least one “clearly viable” party has been identified for 70 percent of the 63 NPL mining sites (including 11 percent where the viable party was a federal agency, such as the Department of the Interior). However, the report also emphasized that EPA should be concerned about the viability of these parties over time because of the long-term nature of the cleanup liabilities at mines. For example, the report states that the projected operation and maintenance period for the cleanup remedy ranges from 40 years to “in perpetuity.” The costs to taxpayers would increase if the liable parties expected to pay for the cleanup remedies proved to be unable to do so.<sup>70</sup>

Some mine owners have defaulted on environmental liabilities associated with their mines on multiple occasions, and the cleanup costs for these sites are being or are expected to be borne largely by taxpayers. These owners may reasonably be viewed as at high risk for defaulting on environmental obligations associated with mines or businesses that they currently own. For example, one individual is associated with several businesses that have filed for bankruptcy protection.<sup>71</sup> Like other mine owners with serial bankruptcies involving contaminated mining sites, this owner continues to operate businesses with significant contamination that need to be cleaned up, potentially via the Superfund. If EPA developed and implemented the financial assurance regulations that the Superfund law requires, EPA could require such owners to provide financial assurances now for existing and future cleanups, thereby reducing the amount that taxpayers would otherwise likely be required to pay.

A Superfund site in Delaware provides an example of the exposure of the federal treasury to enormous cleanup costs associated with industries not currently required to provide EPA with financial assurances because, as generators of hazardous waste, they were not covered by RCRA’s financial assurance requirements. In the 1980s, when this facility was owned by

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<sup>70</sup>In addition, taxpayers may also pay for the cleanups to the extent that EPA settles with liable parties for less than the full cost of the cleanups. According to EPA, the agency often settles for less than the full cleanup cost as a result of equitable factors.

<sup>71</sup>In one case, the company (MagCorp) filed for Chapter 11 bankruptcy protection 7 months after the Justice Department initiated a lawsuit on behalf of EPA for fines of approximately \$900 million for toxic waste violations. The bankruptcy court permitted the owner to sell MagCorp’s assets to a new company (US Magnesium) controlled by the same owner, and the bankruptcy case was subsequently converted to a Chapter 7 liquidation with essentially no assets available to pay creditors. This sale may substantially impede government efforts to collect the penalties.

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Standard Chlorine Corporation, it experienced two major chemical releases—including a 569,000-gallon release of hazardous chemicals that contaminated soil, sediment, a groundwater aquifer, and nearby surface water. Because the facility did not treat or dispose of hazardous waste, and did not store waste for more than 90 days, however, Standard Chlorine did not have to provide financial assurance under RCRA for the cleanups.<sup>72</sup> In 1987, EPA added the site to the Superfund NPL because of the extensive contamination. Subsequently a limited liability business, Charter Oak Capital Partners LP, established a subsidiary corporation called Metachem Products, which acquired substantially all of Standard Chlorine's assets including the facility in 1998, and Metachem accordingly became liable for the Superfund cleanup. However, in May 2002, Metachem declared bankruptcy and abandoned the chlorinated benzene manufacturing facility. EPA estimates that it has incurred about \$28 million in cleanup costs to date at this site and that the total cleanup cost will eventually rise to \$100 million.

Despite the clear benefits that EPA could derive from implementing financial assurance requirements under the Superfund statute, over the past 25 years, EPA has made only sporadic efforts to do so. For example, EPA took some steps early on to identify high-priority classes of facilities but did not complete this effort, although the statute included a December 1983 deadline for this task (see app. II for more detail). In 1983, the Director of EPA's Office of Solid Waste stated that resources were insufficient to develop and implement the Superfund financial assurance requirements. But EPA never asked the Congress to provide additional funds for this purpose.

In 1987, we recommended that EPA set milestones leading to the timely implementation of Superfund financial assurance regulations, but EPA did not implement this recommendation.<sup>73</sup> More recently, an April 2004 internal review of EPA's Superfund program recommended that the Office of Solid Waste and Emergency Response study whether promulgating new

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<sup>72</sup>As noted above, a generator may generally accumulate hazardous waste on site for 90 days or less provided that, among other things, the waste is placed in containers, tanks, containment buildings, or on drip pads in compliance with applicable EPA regulations. Generators of hazardous waste are also required to comply with certain RCRA requirements intended to ensure the safe management of hazardous wastes.

<sup>73</sup>GAO, *Hazardous Waste: Issues Surrounding Insurance Availability*, [GAO/RCED-88-2](#) (Washington, D.C.: Oct. 16, 1987).

regulations under the broad financial assurance authorities contained in the Superfund law could reduce future Superfund liabilities with respect to facilities not covered under RCRA financial assurance requirements. In response to this recommendation, EPA created a work group that is collecting and evaluating information on the industries and types of facilities that have been listed on the Superfund program's National Priorities List (NPL).<sup>74</sup>

While this study should provide useful and relevant information to EPA—in particular on gaps in the coverage of RCRA's corrective action program—we believe that the issue for implementing the financial assurance requirement under the Superfund law is broader than the question of which industries have sites that have been listed on the NPL. That is, the key issue is identifying industries at high risk for environmental contamination. EPA and the states have a wealth of information from both existing studies and from the knowledge base of EPA's and states' enforcement staff across the country. For example, EPA's 2002 study on the almost 900 RCRA facilities undergoing cleanup measures under the corrective action program provides relevant information on industries at risk for environmental contamination and on the costs of those cleanups.

### EPA Does Not Effectively Manage Its Existing Portfolio of Financial Assurances for Cleanups

In addition to not establishing the financial assurance requirements called for in the Superfund law, EPA is not ensuring that the benefits that could be derived from its existing financial assurance requirements for Superfund and RCRA corrective action cleanups are realized. Specifically, in negotiating compliance orders and settlements for these cleanups, EPA generally accedes to the financial assurance mechanism the liable party suggests without routinely determining the risk of the proposed mechanism in light of such factors as the strengths and limitations of the various mechanisms, the financial histories of liable parties, any existing agreements that have reduced the amounts businesses are required to pay for cleanups on the basis of ability-to-pay analyses, and the estimated total environmental liability of individual parties. In addition, EPA has increased the financial risk to the government by not providing adequate oversight and enforcement to ensure that the parties responsible for Superfund and RCRA cleanups obtain and maintain the required financial assurances. EPA

<sup>74</sup>The NPL is EPA's list of seriously contaminated sites, and placement on this list is limited, in part, by funding for the program. Thousands of contaminated sites exist that are not on the list or subject to RCRA's corrective action program.

has acknowledged that its enforcement of financial assurances has been inadequate and has initiated some actions to address this problem.

**EPA Allows Companies to Choose among Financial Assurance Mechanisms That Carry Varying Degrees of Financial Risk to the Government, Rather Than Taking into Account Information on the Extent of Default Risk That Companies May Pose**

EPA has generally given companies significant flexibility to choose the type of financial assurance mechanism they will use to demonstrate their ability to meet their obligations under the RCRA corrective action and Superfund programs. While the closure/post-closure program has regulations governing financial assurances, the corrective action and Superfund programs do not. EPA generally accepts the same financial assurance mechanisms in the Superfund and RCRA corrective action programs as are outlined in the RCRA closure/post-closure regulations. Under the closure/post-closure regulations EPA must generally accept the financial assurance mechanism chosen by the party, so long as the party meets the relevant regulatory requirements for that mechanism. The financial assurance mechanisms EPA generally accepts in all three programs are outlined in table 1.

**Table 1: Financial Assurance Mechanisms Generally Accepted by EPA**

<b>Mechanism</b>	<b>Description</b>
Corporate financial test	A company may demonstrate its ability to meet its obligations by passing one of two financial tests, one of which evaluates certain financial ratios, and one of which requires a minimum bond rating. Both tests require that the company have at least \$10 million in tangible net worth and demonstrate that this tangible net worth is equal to at least 6 times the sum of the current estimates of the cleanup, closure/post-closure, or other costs for which the company is using the financial test as its financial assurance. Use of the corporate financial test is also called self-insurance.
Corporate guarantee	A company may demonstrate its ability to meet its obligations by obtaining a written guarantee from an affiliated entity, such as a parent corporation. For EPA to accept this guarantee, the affiliated entity must meet one of the two corporate financial tests described above.
Insurance	Ability to meet obligations may be demonstrated by an insurance policy covering the estimated cost of these obligations.
Letter of credit	To demonstrate its ability to meet its obligations, a company may provide an irrevocable standby letter of credit issued by a financial institution guaranteeing payment of the obligations up to a specified amount.
Surety bond	A company may obtain a bond from an approved surety company <sup>a</sup> guaranteeing that its obligations will be met.
Trust fund	A company may establish a trust fund with a financial institution to demonstrate its ability to meet its obligations. The release of funds from the trust fund may be directed only by EPA or other regulator.

Source: EPA closure and post-closure regulations.

<sup>a</sup>To be approved, a surety company must be listed on U.S. Department of the Treasury's Circular 570.

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Financial assurance mechanisms vary in

- the financial risks they pose to the government—and thus to taxpayers who may ultimately have to pay for environmental cleanups if the responsible parties default on their obligations;
- the oversight and enforcement challenges they pose to the regulators, such as EPA, who are responsible for enforcing them; and
- the costs companies may incur to obtain them.

For example, as shown in table 2, while the costs to companies of the corporate financial test and the corporate guarantee mechanisms are low compared with other forms of financial assurance, the relative financial risk to the government and the amount of oversight needed are relatively high. In contrast, letters of credit present comparatively low financial risk to the government and need less oversight but impose relatively high costs on companies. In essence, as the table shows, those financial assurance mechanisms that impose the lowest costs on the companies using them also typically pose the highest financial risks to the government entity accepting them. We note that EPA continues to allow financial assurances that are simply promises to pay—the corporate financial test and the corporate guarantee—even though its 2003 guidance on financial assurance for the RCRA corrective action program underscores the importance of having resources set aside “in the event a company hits a financial decline.”

**Table 2: Relative Financial Risk, Necessary Oversight and Enforcement Effort, and Costs of Financial Assurance Mechanisms**

<b>Mechanism</b>	<b>Relative financial risk to the government</b>	<b>Oversight and enforcement effort needed</b>	<b>Cost to the company</b>
<b>Corporate financial test</b>	<b>High</b> If a company that passed the test later files for bankruptcy or becomes insolvent, the company in essence is no longer providing financial assurance because it may no longer have the financial capacity to meet its obligations. Such financial deterioration can occur quickly. While companies no longer meeting the financial test are to obtain other financial assurance, they may not be able to obtain or afford to purchase it.	<b>High</b> The test requires regulators to have expertise in financial analysis and monitor companies' financial condition. For example, the regulator is expected to review companies' annual financial submissions showing that they continue to pass the test. Regulators should also monitor the business press for adverse news about the company, indicating that it may no longer pass the test.	<b>Low</b> The corporate financial test and the corporate guarantee (discussed below) are the lowest-cost options for companies because they do not have to set aside funds for future payments or pay fees or premiums to third parties, such as banks.
<b>Corporate guarantee</b>	<b>High</b> Same issues as with the corporate financial test.	<b>High</b> Same issues as with the corporate financial test.	<b>Low</b> See discussion concerning the corporate financial test.
<b>Insurance</b>	<b>Varies</b> Several factors affect financial risk. For example, "captive" insurance companies—those not independent of the liable business—can pose greater risk than independent insurance providers. Also, if there is conflicting language between an insurance policy and EPA's regulatory requirements, recovery on the policy may be delayed.	<b>Moderate</b> However, extent of oversight needed can vary based on the type of insurance. Captive insurance, in particular, poses many of the same challenges as the corporate financial test and corporate guarantee (see above) because the captive insurer is not a true third-party provider of assurance. Even with an independent insurance provider, however, significant oversight is needed.	<b>Moderate</b> However, cost can vary based on the type of insurance. For example, captive insurance can pose lower costs than insurance from an independent provider. Also, many independent providers are underwriting environmental insurance using finite or fully funded policies—which limit their risk. Such policies resemble trust funds and, like trusts, present higher costs to the company than do conventional insurance policies.
<b>Letter of credit</b>	<b>Low</b> Financial institutions issuing letters of credit are required to pay the amounts specified if EPA requests such payments within the periods of time specified in the letters.	<b>Low</b> Requires periodic monitoring to verify that the letter of credit remains in force and is maintained in a secure place and that the financial institution issuing the letter of credit is still viable.	<b>High</b> Companies typically pay fees to obtain letters of credit and may be required to set aside substantial collateral. Fees may be up to 1 percent of the amount guaranteed, depending on the company's creditworthiness, according to EPA.

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Mechanism	Relative financial risk to the government	Oversight and enforcement effort needed	Cost to the company
<b>Surety Bond</b>	<b>Low to moderate</b> Surety companies are required to pay the amounts specified in the bonds upon receipt of demand letters by the regulator. <sup>a</sup>	<b>Low to moderate</b> Periodic monitoring is required to verify that the bond remains in force and that the surety company is still approved.	<b>Moderate to high</b> Companies pay annual premiums to surety companies and generally are required to provide substantial cash collateral.
<b>Trust fund</b>	<b>Low</b> There is a risk that the trust may not be fully funded if the company is allowed the flexibility of paying over time.	<b>Low to moderate</b> Periodic monitoring is required to ensure, among other things, that the financial institution has the authority to act as trustee.	<b>High</b> The company must set aside funds into the trust to cover its anticipated obligations. In addition, the company usually pays a fee for the administrative services provided by the trustee.

Source: GAO analysis.

<sup>a</sup>In some cases, EPA allows performance bonds to be used; the surety guarantees that it will either perform the required work or will pay out the amount specified in the bond upon receiving notification from the regulator that the company for which the surety has provided a performance bond has failed to carry out its obligations.

The mechanisms that pose the greatest financial risk to the government—the corporate financial test, the corporate guarantee, and some insurance products—also require specialized expertise to oversee. Concerns have been raised, both within EPA and by others, that the corporate financial test and the corporate guarantee offer EPA minimal long-term assurance that the company with environmental liability will be able to fulfill its financial obligations. In 2000, the Department of the Interior's Bureau of Land Management (BLM) identified similar concerns when it decided to prohibit new corporate guarantees for future reclamation work to restore lands when mining operations cease. In making this decision, BLM cited both the agency's lack of expertise to perform the periodic reviews of companies' assets, liabilities, and net worth that would be necessary to oversee guarantees and the fact that even with annual reviews by skilled staff, a default risk would remain.<sup>75</sup>

Further, some concerns about the financial test, such as the following, stem from limitations inherent in relying on financial indicators rather than secured guarantees:

<sup>75</sup>See GAO, *Hardrock Mining: BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs*, [GAO-05-377](#) (Washington, D.C.: June 20, 2005) for examples of BLM's inability to collect funds for reclamation when operators of hardrock mines using corporate guarantees filed for bankruptcy.



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- The corporate financial test rests on the assumption that a company's recent financial performance is a reasonable predictor of its financial future. However, the financial test cannot anticipate sudden changes in market conditions or other factors that can dramatically change a company's financial picture—and a company's ability to meet its environmental obligations.
  - Once a company's financial condition declines to the point that the company can no longer pass the financial test, it can be very difficult for the company to meet the requirements, or pay the costs, of obtaining an alternative form of financial assurance from a third-party provider.
  - The financial test is only as sound as the data used to calculate the financial ratios underpinning the test—if a company's accounting of its net assets or liabilities is questionable, or the quality of its assets is weak, one or more of the ratios may not represent the company's true financial condition. EPA officials noted that the passage of the Sarbanes-Oxley Act of 2002, with its requirements aimed at improving the accuracy and reliability of corporate disclosures, may have reduced some of these data-related concerns about the financial test, at least for publicly held companies.

In addition to these limitations, weaknesses in the financial test itself are actively under discussion. For example, EPA's Environmental Financial Advisory Board, a federal advisory committee that provides advice and recommendations to EPA on environmental finance issues, has been charged by EPA with reviewing financial assurance mechanisms. In March 2005, the project work group leading this review submitted to the full board for consideration the first draft of a proposed letter to the EPA Administrator commenting on the financial test. In this draft letter, the work group stated that the current test is "an inadequate mechanism for determining financial capacity." The draft letter also stated that while the EPA financial test is transparent and objective, the test is not sufficiently comprehensive in what it assesses, does not examine and incorporate historical trends, and is not sufficiently rigorous to protect against manipulation. The membership of the full board is reviewing the draft letter, and the board has received substantive comments on the draft letter from outside parties. The work group is reviewing comments on the draft letter and expects to develop a revised draft letter for full board review and approval outlining the board's findings and recommendations concerning the financial test.

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Another concern about the financial test relates to the threshold a company must meet to qualify for the test—a company must have at least \$10 million in tangible net worth. EPA has not adjusted the standard since 1982 when the RCRA financial assurance regulations were implemented.<sup>76</sup> The Environmental Financial Advisory Board subcommittee noted that the \$10 million threshold may be inadequate and should either be recalibrated or have standards of proportionality. We believe that the \$10 million standard is likely to no longer be appropriate given, for example, the rate of inflation since 1982.

In addition, the financial test requires that EPA and state regulators have the financial skills to assess whether a company's representation of its financial condition is reasonable. An EPA regional enforcement official said that the assessment of whether a company meets the financial test can be particularly difficult given that companies have an incentive to pass the test—therefore, companies may try to paint their financial position as “rosier” than it actually is to avoid having to pay for higher-cost financial assurance. (As recent court cases, such as those involving Enron and Worldcom, have shown, serious misstatements of financial position aimed at demonstrating strong financial position may occur for a number of other reasons as well—for example, to protect or improve the value of the corporate stock.) Because EPA and state staff who oversee the implementation of these mechanisms may not have sufficient expertise to provide the desired level of financial analysis, the Environmental Financial Advisory Board's March 2005 draft letter to the EPA Administrator noted that the financial test may be better served if companies retained credit services to provide independent financial analysis.

Moreover, in a March 2001 report, EPA's Inspector General identified other factors that complicate overseeing the financial test.<sup>77</sup> In this report, officials cited difficulties in predicting companies' long-term financial viability. For example, in reviewing the financial assurances of a sample of hazardous waste facilities required to have financial assurances, the Inspector General found that some facilities that had established financial assurance through the corporate financial test no longer met the requirements of the test a year later. Other difficulties officials cited in

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<sup>76</sup>EPA last evaluated the net worth requirement in 1991. 56 *Fed. Reg.* 30201.

<sup>77</sup>EPA, Office of Inspector General, *RCRA Financial Assurance for Closure and Post-Closure*, 2001-P-007 (Washington, D.C.: Mar. 30, 2001).

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overseeing the financial test included evaluating data from companies that have hazardous waste facilities in many states and factoring in the impact of mergers and acquisitions, among other things.

In a 2003 paper summarizing its review of RCRA financial assurances, the Association of State and Territorial Solid Waste Management Officials<sup>78</sup> reported that waste and remediation managers from various states believe that EPA should reconsider the financial test and corporate guarantee as financial assurance mechanisms due to the financial meltdown of Enron and many other publicized financial scandals of Fortune 500 companies with audited financial statements.<sup>79</sup> The paper states that EPA's position is that eliminating these financial assurances could add substantially to the cost of the financial assurance regulations.<sup>80</sup>

As table 2 shows, the corporate financial test and the corporate guarantee are the least costly financial assurances for companies to use, so eliminating them would increase compliance costs. At the same time, these two financial assurance mechanisms are the most costly for the government because of the high oversight costs associated with them, as discussed above, and because the government, rather than the companies, is carrying the default risk.

In addition to the risks posed by the use of the corporate financial test and the corporate guarantee, the use of insurance policies as financial assurance has typically presented higher financial risk to the government than letters of credit, surety bonds, and trust funds. For example, concerns have been raised about the increased use of policies written by “captive” insurance companies—that is, by wholly-owned subsidiaries controlled by parent companies and established to insure the parent companies or other subsidiaries.

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<sup>78</sup>The Association of State and Territorial Solid Waste Management Officials is an organization that supports state environmental agencies and trust territories by focusing on their solid and hazardous waste programs, Superfund and state cleanup programs, underground storage tank programs, and other programs.

<sup>79</sup>Association of State and Territorial Solid Waste Management Officials (ASTSWMO), *Financial Assurance Review Paper* (Washington, D.C.: April 21, 2003).

<sup>80</sup>CERCLA and RCRA both specifically authorize self-insurance as a form of financial assurance. 42 U.S.C. § 9608(b)(1); 42 U.S.C. § 6924(t)(1). However, both statutory provisions give EPA broad discretion in determining the circumstances under which the agency accepts self-insurance. Moreover, neither provision specifically applies to financial assurances included in corrective action orders issued under RCRA.

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In 2001, for example, EPA's Office of Inspector General found that financial assurance provided by a "captive" company did not provide adequate assurance of funding for closure and post-closure activities at hazardous waste facilities.<sup>81</sup> EPA acknowledges that the financial health and solvency of a captive insurance company may be closely connected to the financial condition of the company with environmental liabilities, and therefore, if the company faces financial difficulties, the insurer may also be in financial distress and not be able to cover claims made on its policies.

The Congress has also raised questions about the use of insurance as financial assurance at solid waste landfills, which have a separate set of financial assurance regulations.<sup>82</sup> A June 2000 House committee report directed EPA to conduct a study of financial assurance agreements at solid waste landfills to determine if sufficient safeguards have been properly maintained and future liabilities minimized. According to the EPA official responsible for preparing this report, the concerns that led to this mandate dealt largely with captive insurance. EPA's draft report in response to the mandate was being reviewed within the agency as of June 2005; no expected issuance date has been announced yet. Because the report is still in draft form, EPA officials were not willing to discuss its findings or potential recommendations.

Moreover, independent of issues associated with captive insurance policies, insurance policies covering corrective action or Superfund cleanups can require significant oversight on the part of regulators. For example, since insurance policies may contain exclusions that limit their coverage, the regulator must carefully review a policy being used as financial assurance to verify that it fully covers the anticipated environmental claims. Also, the regulator must remain aware of the insurer's status—under current EPA requirements, the insurer is not required to inform the regulator if its license to operate is revoked or it becomes insolvent. In addition, EPA officials noted that insurers will sometimes include language in the policy that conflicts with EPA's

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<sup>81</sup>See footnote 77.

<sup>82</sup>40 C.F.R. Part 258, Subpart G.

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regulatory requirements, which may delay recovery on the policy.<sup>83</sup> The Association of State and Territorial Solid Waste Management Officials has voiced concerns about the level of oversight required of insurance as financial assurance, and in 2003, recommended that EPA update its guidance on financial assurances, particularly its guidance on insurance issues, such as how to make claims on policies.<sup>84</sup>

In addition to the financial risks to the government resulting from the use of certain financial assurance mechanisms, as discussed above, several other financial risk factors affecting liable parties' ability to fulfill their cleanup obligations make it all the more important that EPA or state regulators, if applicable, ensure that liable parties provide solid financial assurances that will be available when needed. These risk factors include (1) the financial histories of liable parties, (2) any existing agreements that have reduced the amounts businesses are required to pay on the basis of ability-to-pay analyses, and (3) the estimated total environmental liability of individual parties. When EPA or a state regulator agrees to a liable party's use of a financial assurance mechanism, it would be prudent for the agency to consider these factors as well as the risk to the government associated with the mechanism itself.

In some cases, EPA or state regulators have encountered individuals or companies with track records that indicate that they are unlikely to have the financial resources or the willingness to carry out their environmental cleanup responsibilities. The histories of these parties may indicate that they are at high risk of failing to comply with future requirements, such as

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<sup>83</sup>Under the financial assurance regulations for closure/post-closure, an insurer must submit a certificate to EPA providing, among other things, that any provision of the policy that is inconsistent with EPA regulations is automatically amended to eliminate any inconsistency. 40 C.F.R. § 264.151(e). While EPA officials believe this certificate resolves any conflict between the regulations and the policy, they acknowledge it may be necessary to litigate the issue, leading to a delay in recovery. A recent federal appellate court analyzing an analogous issue held that in a conflict between EPA's financial assurance regulations for underground storage tanks and a state statute, EPA's regulations governed the dispute. In *Zurich American Insurance v. Whittier Properties*, 356 F.3d 1132 (9th Cir. 2004), the court held that EPA's financial assurance regulations governing underground storage tank (UST) operators provided for the exclusive remedy of prospective cancellation of a UST insurance policy where the operator had obtained the policy fraudulently. The court held that because EPA's regulations provided the exclusive remedy, the insurer could not benefit from a state statute authorizing rescission of the policy in the event of fraud, and therefore could not avoid paying on the policy.

<sup>84</sup>See footnote 79.

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cleanup requirements under the corrective action program. Parties that present such high risks to EPA and state regulators could be required to obtain strong financial assurances to ensure that their environmental responsibilities are fulfilled.

Also, large liabilities—which may stem from one or more megasites either under Superfund and/or RCRA or from a series of smaller sites—expose EPA and taxpayers to significant financial risk, especially if there is only one or a few parties liable for the cleanups. In such cases, choosing financial assurance mechanisms that provide relatively low financial risk to the government—that is, that provide at least some actual funding—is particularly important. However, EPA and state staff overseeing financial assurances generally do not have information readily available about a company's total environmental liabilities across the United States, nor would they typically have access to information about (1) environmental obligations a company may have in other countries or (2) the extent to which the company may be using the same financial assurance mechanism to back up numerous environmental obligations.<sup>85</sup> As a result, these regulators may, for example, approve the financial test for financial assurance at a RCRA site or sites without considering a company's liability for a large Superfund site in another state.

Finally, for RCRA sites, typically an owner or operator is responsible for the cleanup. Similarly, at some Superfund sites, there may be few, even only one, liable parties. Along these lines, EPA enforcement officials said that strong financial assurances are particularly critical when a site's cleanup costs are large, but the number of liable parties is small. At such sites, strong financial assurances are likely to be the only way to avoid having taxpayers pay for these cleanups should the liable party experience financial reverses, file for bankruptcy, or restructure in a way that leaves the party with insufficient assets to pay for the cleanup.

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<sup>85</sup>EPA officials noted that under the RCRA closure/post-closure program, an owner or operator of a RCRA treatment, storage, or disposal facility who uses the financial test or corporate guarantee is required to (1) disclose other sites for which it is using the financial test and the current closure or post-closure cost estimates for each of these sites and (2) provide a list of facilities that are not covered by the financial test submission and the current estimated costs of closure and post-closure care for these other facilities.

**EPA Has Further Increased the Financial Risk to the Government by Not Providing Adequate Oversight and Enforcement of Financial Assurance Requirements for Cleanups**

EPA has conducted limited enforcement of its existing financial assurance requirements. As a result, the agency has not ensured that the parties responsible for Superfund and RCRA corrective action cleanups obtain and maintain the financial assurances they are required to provide to demonstrate their ability to meet these environmental obligations. In fact, the agency lacks basic information about its portfolio of financial assurances. That is, EPA does not have data on the financial assurances that businesses are required to have in place for Superfund and RCRA cleanups, such as the type of assurance required, the amount of financial assurance provided, and whether the financial assurance is still authorized or is in force.<sup>86</sup>

Further, in late 2003, one EPA regional office conducted an assessment of financial assurances for Superfund cleanup settlements negotiated in that region and found significant noncompliance with financial assurance requirements. Specifically, EPA officials found that only 30 percent of the liable parties subject to financial assurance requirements in Superfund settlements, consent decrees, and EPA cleanup orders were in compliance with these requirements. Overall, the responsible parties at 48 percent of these sites appeared to be out of compliance with relevant financial assurance requirements. In addition, the regional staff reported that 22 percent of the cases needed additional follow up and review because, among other things, EPA could not locate the financial assurance documents and thus could not determine whether the liable parties were in compliance with the financial assurance requirements. (In some cases, EPA had the responsibility for maintaining the financial assurance documents, and in others that responsibility had been delegated to state regulators.) The staff member leading the assessment reported that locating the original financial assurance documents within the region's records was "painfully slow."

Moreover, EPA's key databases for Superfund and RCRA do not contain data elements related to financial assurances. In addition, although EPA's regional offices are responsible for ensuring compliance with Superfund settlement agreements, including financial assurance requirements, the regional offices have generally not tracked information on their portfolios of financial assurances supporting settlements for cleanups in their

<sup>86</sup>For example, the use of the corporate guarantee is no longer authorized if the company providing the guarantee no longer meets EPA's financial test. Other forms of financial assurance, such as bonds and insurance, may lapse for various reasons.



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regions. For example, we asked several EPA regional offices to provide information on the Superfund settlements negotiated in their offices such as (1) the number of settlements backed by financial assurances and (2) the number, if any, not in compliance with this requirement. Regional EPA officials told us that information was not readily available, and that obtaining it would entail going back to each individual settlement agreement to identify the financial assurance mechanism, if any, and then determining the current status of the financial assurance. The situation with financial assurances under the RCRA corrective action program is more complex. While EPA has overall responsibility for implementing the act, and retains enforcement authority, it has authorized most states to administer the corrective action program. As a result, to obtain information on these financial assurances, EPA would have to request that the states gather this information and provide it to EPA.

Lacking data on the financial assurances that are required, EPA cannot be assured that all appropriate financial assurances are in place and available, as needed. In addition, the data limitations preclude EPA and state officials from conducting other analyses and enforcement-related tasks, such as determining whether the financial assurances that a company provides will be adequate given the company's cleanup liability across the nation and analyzing the effectiveness of the various types of financial assurance in providing funding for cleanups.

Enforcement officials both at EPA headquarters and several regional offices acknowledged that the agency has often paid scant attention to oversight and enforcement of financial assurance requirements in cleanup settlements and cleanup orders. According to EPA officials, the agency's focus in the Superfund program has been on the environmental issues associated with cleanups, such as ensuring that appropriate cleanup remedies are chosen and that the liable parties begin the agreed-upon cleanup work. Consequently, when EPA negotiates and enforces cleanup settlements, enforcing financial assurance requirements, including reviewing complex financial data about responsible parties, typically takes a back seat to environmental concerns. According to one regional attorney, there are a number of important issues to resolve in negotiating settlements, and ensuring that a strong financial assurance mechanism is in place often becomes a "B list" issue during negotiations. Moreover, one official noted that EPA tracks whether its regional enforcement officials reach a settlement with liable parties as a key measure of enforcement activity—but there is no such results-oriented measure concerning enforcement of financial assurances. In addition, the existing model

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language for Superfund settlements does not require that the financial assurance be obtained by the time the settlement is signed. Rather, the party agreeing to the settlement has 30 days after signing it to obtain financial assurance and notify EPA. This arrangement has precluded an assessment of the assurance before the settlement is signed.

Once a Superfund settlement has been signed, enforcement of financial assurances—to ensure that they were actually obtained, are sufficient to cover anticipated cleanup costs, and remain in force—is likely to remain a low priority, according to some EPA enforcement officials. An EPA official explained that this enforcement responsibility typically falls to the remedial project manager, who has overall responsibility for the site cleanup. This remedial project manager's expertise is typically in engineering and environmental cleanup issues, not financial matters such as determining whether a liable party's corporate guarantee provides adequate protection against default on the party's cleanup obligations. Moreover, if EPA discovers at some point that the liable party's financial assurance is no longer adequate, EPA is often reluctant to insist that the company incur the additional cost of obtaining further financial assurance as long as the company is carrying out at least some of the cleanup work, according to some enforcement officials. In fact, EPA and Justice Department officials have noted that at times they are faced with this dilemma: whether to require companies to use some of their limited resources to obtain secure financial assurances versus applying those funds directly to the cleanups.

EPA has begun to recognize that its limited enforcement of its financial assurance requirements for Superfund and RCRA cleanups, as well as these requirements for closure and post-closure activities at hazardous waste facilities, is exposing taxpayers to significant risk of having to pay cleanup costs at many current and future Superfund sites. As a result, EPA's enforcement office has begun several initiatives concerning financial assurances:

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- EPA has added financial assurances to its national enforcement priorities beginning in fiscal year 2006.<sup>87</sup>
  - EPA has taken steps to evaluate the addition of data elements, such as the type of financial assurance provided and the name of the company providing it, to its key databases for Superfund and RCRA programs. EPA estimates that the Superfund database's revisions will be in place by the end of fiscal year 2005. The data elements are expected to be added prospectively, that is, EPA would add information about financial assurances in new Superfund settlements and consent decrees to the database as they are reached, but information about existing financial assurances would not likely be added. Because the RCRA database additions involve coordinating with states and tribes authorized to implement RCRA, they are expected to take longer, and no estimate of implementation date has been made.
  - EPA has begun efforts to increase the expertise of officials who enforce its financial assurance requirements. For example, the agency has developed a course on financial assurance mechanisms for officials who enforce RCRA financial assurance requirements.
  - In late 2004, EPA made available three cost-estimating tools to help regulators estimate the appropriate level of financial assurances needed in the RCRA corrective action program. EPA has also begun to fund training in the use of cost-estimating software for its staff and state agency personnel.
  - In response to a recommendation in EPA's April 2004 internal Superfund review, as discussed earlier, EPA has begun a study that, among other things, will assess the extent to which facilities that had been required to have financial assurances under RCRA's hazardous waste program have become taxpayer-funded Superfund cleanups. Also, EPA's Office of Inspector General initiated a review in late 2004 on the effectiveness of RCRA's financial assurance requirements.

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<sup>87</sup>EPA has financial assurance requirements not only for the programs discussed in this report, but also for other areas, such as the Underground Storage Tank Program and the Underground Injection Control Program for deep injection wells. In 2003, we reported on financial assurances for Class 1 deep injection wells, which are built to contain hazardous liquid waste below the lowest underground source of drinking water. See GAO, *Deep Injection Wells: EPA Needs to Involve Communities Earlier and Ensure That Financial Assurance Requirements Are Adequate*, [GAO-03-761](#) (Washington, D.C.: June 13, 2003).

## EPA Could More Fully Utilize Other Enforcement Authorities, Such as Claiming Payments the Government Owes to Liable Businesses and Filing Liens on Superfund Properties

In addition to financial assurances, EPA has other enforcement authorities available under certain circumstances to help obtain payments for cleanups. For example, EPA may in appropriate circumstances (1) seek, in cooperation with the appropriate federal agency, tax refund or other administrative offsets, which allow the federal government to redirect payments or tax refunds it owes businesses to federal agencies with claims against these businesses and (2) file liens on property for which the federal government has incurred expenses under the Superfund law. These authorities may be used regardless of whether a liable party is in bankruptcy. Under the bankruptcy code, offsets and these liens may be considered secured claims—that is, those the debtor must pay first—which can greatly increase the likelihood that EPA will recover at least some of its cleanup costs in bankruptcies.

## EPA May Obtain Tax Refund and Other Administrative Offsets to Help Pay for Costs of Environmental Cleanups

An administrative offset is a procedure allowing a federal agency to obtain monies owed to it by a party from payments that the federal government owes the same party, such as tax refunds or payments under government contracts. EPA officials noted an important advantage of offsets as opposed to claims in bankruptcy court: to the extent that the offsetting amount will cover the dollar amount of EPA's claim, the claim will be paid in "full dollars." In contrast, claims in bankruptcy court, as previously discussed, may result in a payment of only pennies on the dollar amount of the claim. According to EPA and Justice Department enforcement officials, the agency has obtained tax refund offsets in several bankruptcy cases and other administrative offsets in two cases in the past few years. EPA officials noted one such example: in July 2004, after United Airlines filed for bankruptcy protection, EPA reached a settlement with the company on its environmental liabilities that included a provision to recover \$550,000 through an offset of a federal tax refund.

EPA officials also described an instance in which they had not been successful in obtaining an offset. Officials in EPA's Philadelphia office told us of their failed attempt to obtain an offset from Exide Technologies when it filed for bankruptcy reorganization in 2002. One of these officials estimated that the company had an environmental liability of about \$80 million from more than 100 contaminated sites. EPA officials believed the company had significant government contracts and tried to identify those contracts and the amount the government owed the company at that time. However, these officials said they were unable to obtain this information in time—that is, before the government paid Exide. (Under the Prompt Payment Act, an agency acquiring property or services from a business

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concern must make payments by the required payment dates or pay an interest penalty to the business on the amount due, and thus information on pending government payments must be gathered quickly.) To gain the benefit of administrative offsets to help recover some cleanup costs, EPA would need to quickly identify government payments owed to bankrupt or financially distressed companies with environmental liabilities and process its offset claim before the government paid the contractor or vendor.<sup>88</sup>

To date, EPA has provided little guidance to its enforcement staff on how to use its offset authority in recovering cleanup costs. For example, EPA's guidance for participating in bankruptcy cases mentions offsets but does not provide any instruction on the necessary steps in obtaining an offset, such as coordination that may be needed with the Internal Revenue Service for a tax refund offset. Similarly, in training sessions on bankruptcy issues for EPA attorneys that we observed in 2004, EPA and Justice Department bankruptcy experts encouraged the use of offsets, but did not include any specific information on how to obtain offsets or refer participants to any guidance on doing so. Particularly given the time-critical nature of any attempt to obtain offsets, procedures and guidance to staff to facilitate the use of offsets would both encourage staff to use these tools, when appropriate, and support their efforts to do so. For example, guidance to EPA staff on how to quickly obtain information on government contracts or grants may have helped them identify potential offsets for some environmental liabilities associated with bankruptcies. In addition, an agencywide process for identifying tax payments due to businesses would enable the agency to routinely identify whether businesses filing for bankruptcy that have environmental liabilities are owed any tax refunds.

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<sup>88</sup> Although in some cases, EPA could miss out on opportunities for recoveries because certain payments had already been made, for ongoing relationships with contractors, grantees, or vendors, the offset authority could be used against future payments to these entities.

## EPA's Authority to File Liens on Superfund Properties Can Help the Agency Recover Costs Associated with Environmental Cleanups

Under the Superfund law, EPA has a lien, or legal claim, on property if the government has incurred costs associated with cleanup at the property.<sup>89</sup> According to a relevant House committee report, one purpose of the lien was to prevent the unjust enrichment of the responsible party, who might otherwise benefit from the rise in property value resulting from the property's cleanup. According to EPA, liens can provide the agency with leverage in obtaining cleanup costs generally, and can also assist the agency in obtaining cleanup funds under bankruptcy proceedings because liens are classified as secured claims—the highest priority category for receiving payments from a debtor in a bankruptcy. Thus, a lien can greatly increase the likelihood that EPA will recover at least some of its cleanup costs in bankruptcy cases.

However, to establish the priority of a property lien under the Superfund program among other secured parties and creditors, EPA must file notice of the lien (sometimes called “perfecting a lien”) in the appropriate governmental office in the state where the property is located.<sup>90</sup> Importantly, the automatic stay provision under bankruptcy law generally prohibits filing or enforcing a lien after a debtor has filed for bankruptcy. In addition, the priority of property liens is typically based on their filing dates. Thus, it is to EPA's advantage to file Superfund liens as soon as possible to secure EPA's financial interest in them and to receive as high priority for that interest as possible. An example of the benefit liens can provide is a bankruptcy case cited by EPA in which the agency recovered \$10 million in satisfaction of its property lien. (The property was sold for \$24 million at an auction conducted by the bankruptcy court.) If, however, EPA does not routinely consider and analyze the use of liens at Superfund sites to protect the government's financial interest where cost

<sup>89</sup>Section 107(l) of the Superfund law establishes a federal lien in favor of the United States upon property which is subject to or affected by a removal or remedial action. The lien applies to all property upon which the response action has been taken, not just the portion affected by the cleanup activities, and applies to all future costs incurred at the site.

<sup>90</sup>EPA's lien guidance advises regional officials, who are responsible for filing such notices, to consider filing notice of a lien whenever applicable, and, in making such decisions, to take into account such considerations as whether the property's value will significantly increase as a result of the cleanup work and whether there is a likelihood that the owner will file for bankruptcy. EPA Memorandum: Guidance on Federal Superfund Liens, September 22, 1987.

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reimbursement may otherwise be difficult or impossible, the agency can miss opportunities to have status as a secured creditor in bankruptcy cases.<sup>91</sup>

In addition, having Superfund liens can also help EPA negotiate settlements with liable parties at Superfund sites, according to EPA. For example, according to EPA, the liens cover the entire property for which Superfund-related costs have been incurred, not just contaminated areas—and owners of some properties may wish to sell “clean” portions of their properties. Such owners would have an incentive to have the lien released, which would happen only if they conducted the cleanup or reimbursed EPA for cleanup costs. In fact, EPA has identified instances in which even the threat of filing a lien has produced agreements for payments with uncooperative parties. With filed liens, the agency may also become aware of assets businesses may wish to sell to affiliated parties, and which EPA could challenge under fraudulent transfer laws, because such transactions would need to be approved by the agency.

Since the lien provision was added to the Superfund law in 1986, EPA has issued guidance to its staff on filing liens and has encouraged staff to do so. For example, in 2002, EPA’s Director of the Office of Site Remediation Enforcement issued a memorandum encouraging the filing of liens to secure response costs in Superfund cases. Also, in training sessions on bankruptcy issues for EPA enforcement attorneys, such as those we observed in 2004, EPA and Justice Department experts in bankruptcy encouraged these attorneys to file Superfund liens whenever possible. However, we found that EPA headquarters does not require that its regions report information to them on liens they have filed, and that overall the agency has little centralized information on such liens. For example, although the principal database used to manage the Superfund program contains data fields for such liens, an EPA official with expertise in this database said that the agency has little confidence in the completeness or accuracy of these fields. Also, the lien-related fields were added in the late 1990s, so liens filed before that time are not likely to be included in the national database. Thus, it is not clear whether EPA has made good use of its authority to file Superfund liens.

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<sup>91</sup>We recognize that there is a transaction cost in filing Superfund liens and that this cost should be balanced against the prospect of more certain cost recovery for the government. In some cases, a lien may provide no potential cost recovery to EPA because the land has little or no value.



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In addition, it is not clear that the agency is consistently and timely aware of EPA property liens that it should pursue in bankruptcy cases. For example, EPA officials indicated that the agency generally relies on its enforcement attorneys to have knowledge of its Superfund liens at sites for which the attorneys have enforcement responsibility. However, the reliability of this informal system is questionable in light of such things as the often voluminous Superfund files we have observed—a wall of floor-to-ceiling shelves can be filled with files from just one case—staff changes over time, and the need for the relevant staff to be available when the notice of bankruptcy is circulated via email. In addition, agency guidance on bankruptcy cases does not specifically require staff to routinely determine, when reviewing notices of bankruptcy filings, whether EPA has filed a lien that could become a secured claim in the bankruptcy proceedings. Finally, we note that EPA officials highlighted the fact that lien filings are not included in the agency’s performance measures, and that greater attention can be expected to be given to those activities that are counted, such as reaching Superfund settlements.

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## Conclusions

The need for EPA to fully use its existing authorities to execute the “polluter pays” principle underlying the Superfund and RCRA laws is even more compelling today than it was during the 1980s and 1990s when corporate taxes—largely assessed on businesses at risk for environmental pollution—provided about \$1 billion a year for Superfund cleanups. Now, without revenue from Superfund taxes, the cleanup burden has increasingly shifted to the general public—and at a time when large federal deficits are likely to constrain EPA’s ability to obtain such funding for these cleanups. In addition, over time, businesses have become more sophisticated in using the limited liability principle to protect their assets by separating them from their liabilities. They use the traditional corporate parent/subsidiary structure as well as relatively new business forms—limited liability companies and partnerships—often in complex, multilayered organizational structures. The result is that businesses of all sizes can easily limit the amounts they may be required to pay for environmental cleanups under Superfund and RCRA. Compounding the problem, from EPA’s perspective, is the long-term nature of many of the cleanups, which provides businesses with ample time to implement complex asset protection plans. Finally, it has become more common and acceptable for businesses to use the bankruptcy courts as a reorganization tool that enables businesses to emerge with discharged or reduced environmental liabilities.

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Collectively, these factors present serious challenges to EPA in attempting to enforce environmental laws and to ensure that polluters pay for cleanups. For example, the ease with which companies can protect their assets can actually encourage businesses to take more risks in their operations, thereby increasing the risks of environmental contamination. Importantly, this situation also presents a significant management challenge for EPA in determining whether businesses have resources available to meet their environmental obligations. These challenges can seriously hamper EPA's ability to achieve its primary mission of protecting human health and the environment because they present formidable obstacles to obtaining the funding needed for cleanups. That is, it is increasingly difficult for EPA to obtain funding to clean up not only existing Superfund sites but also those still in the Superfund pipeline. Thus, we believe it is imperative for EPA to increase its focus on financial management and to fully use its existing authorities to better ensure that those businesses that cause pollution also pay to have their contaminated sites cleaned up.

In this regard, EPA has not used its authority under the Superfund law to require businesses that handle hazardous substances to provide financial assurances covering existing and potential cleanups. This statutory mandate recognizes that businesses likely to cause environmental contamination and endanger public health can reasonably be expected to incur a business cost in order to ensure that they will have the financial wherewithal to pay for spills and other contamination, whenever they may occur, consistent with the degree of risk their operations pose to public health and the environment. Under this statutory mandate, EPA is to require, as appropriate, financial assurances from businesses to protect public health and the environment prospectively. This requirement may be viewed as akin to mortgage companies' requirements that borrowers provide homeowners insurance to protect the value of the assets against possible damage, except that this requirement is not directed at all businesses—it is directed at those at risk for contaminating the environment.

Importantly, using this authority would help to close gaps in EPA's existing financial assurance requirements: it would require some businesses not subject to RCRA's financial assurance coverage, such as producers of certain mining wastes that have caused enormous environmental harm, to obtain financial assurance because of the environmental problems their operations are likely to continue to cause. It would also close the gap that exists under RCRA's financial assurance requirements, which generally

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extend to businesses that treat, store, or dispose of hazardous waste, but not to businesses that generate hazardous waste, even though they may be at high risk for environmental problems, such as chemical spills.

In 1980, when the Superfund financial assurance requirement was enacted by the Congress, it required EPA to first identify the classes of facilities with the highest risk of harm. This task is much easier today because EPA and the states now have 25 years of experience with Superfund and 29 years with RCRA. We believe EPA can expeditiously implement the requirement to identify those industries with the highest risk of environmental harm and establish appropriate risk-based financial assurance requirements for them. For example, EPA should be able to gather relevant information from Superfund and RCRA program data, studies, and the many officials involved with these programs over the years, among other sources, to identify those industries that pose high levels of environmental risk.

Further, to ensure that financial assurances the agency requires under the Superfund and RCRA corrective action programs actually provide funding for cleanups in the event the liable parties default on their environmental obligations, it is critically important that EPA effectively oversee and enforce the financial assurances that businesses provide to the agency. The fact that EPA currently cannot even readily identify the financial assurances that should be in force is a clear indication of inadequate oversight and enforcement. As a result, there is an increased risk that taxpayers, rather than the parties responsible for the contamination, will ultimately have to pay for the cleanups of contaminated sites under Superfund and RCRA. Although EPA has begun some efforts to increase its oversight and enforcement of financial assurances, the agency will need to sustain and increase such efforts if financial assurances are to achieve their intended goal of ensuring that responsible parties, not U.S. taxpayers, pay to clean up hazardous waste sites.

Also, we believe that EPA should evaluate the degree of financial risk and the oversight costs it is appropriate for the agency to bear. Fundamentally, it is a question of whether the industries that pose environmental risk or the government charged with protecting the environment should carry the financial risk for the contamination that the industries may cause. Considering the often very long-term nature of the cleanups—during which time it would be reasonable to expect businesses to set aside increased resources—as well as the resources and skills necessary to oversee the unsecured financial assurances, continuing to, in effect, subsidize

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businesses by accepting unsecured assurances may be a luxury the government can no longer afford.

More specifically, in its evaluation, EPA should consider the different financial risks that the various financial assurances pose to the government. This is especially important in light of the problems that we, the EPA Inspector General, state regulators, and others have identified, particularly with respect to the corporate financial test, corporate guarantee, and captive insurance. For example, to effectively oversee some of the financial assurances, EPA staff—and state staff handling RCRA financial assurances for EPA—must have a high level of expertise in financial management and insurance, among other fields. However, EPA has not taken into account either the variations in number of staff or levels of expertise needed that are associated with overseeing and enforcing the various financial assurances. Doing so, however, could provide EPA with the opportunity to both minimize the costs the government needs to bear to effectively oversee and enforce its financial assurance portfolio and reduce the government's financial risk for environmental cleanups. For example, when faced with the trade-off between allocating staffing resources to oversee unsecured financial assurances and meeting other agency responsibilities, BLM decided to no longer accept corporate guarantees, in part because of the oversight challenges they present. In so doing, BLM shifted more of the financial risk to the businesses they regulate who have to purchase financial assurances from independent third parties, such as banks.

In addition to financial assurances, greater use of other enforcement authorities, such as offsets and Superfund liens, could help EPA recover more costs from parties liable for environmental cleanups in some cases. Although offset authorities are limited to situations in which the government owes the company a tax refund or some other payment, a greater willingness by EPA to use these authorities—and to establish procedures and provide direction to staff in how to use these authorities—could help the government better ensure that parties responsible for pollution pay the associated cleanup costs to the maximum extent practicable. For example, when liable parties are unwilling to fulfill their financial obligations for cleanups, EPA officials should routinely explore whether tax offsets may be available. Staff should be provided with policies and procedures detailing the steps that need to be taken to use these enforcement tools effectively.

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Finally, companies with environmental liabilities that file for bankruptcy present another set of management challenges to EPA. Under its current process for identifying and reviewing bankruptcies, the agency cannot be confident that companies with EPA liabilities are held responsible for their cleanup obligations to the maximum extent practicable because the agency cannot ensure that it has identified (1) those bankruptcies for which it should request the Justice Department to file claims with the bankruptcy courts for cleanup funds and (2) any existing rights the agency has that can give its bankruptcy claims a priority status, such as liens on Superfund properties, which significantly improves the agency's chances of recovering funds under bankruptcy proceedings. Importantly, EPA also needs to review the specific sites identified in bankruptcy proceedings for purposes other than filing claims. One such purpose is to help ensure that discharges for businesses reorganizing under bankruptcy proceedings are not approved for contaminated sites that EPA has not been previously aware of.

To its credit, EPA has established a bankruptcy work group that seeks to identify relevant bankruptcy filings to pursue and bankruptcy actions to monitor, such as notices to abandon property. However, the process the agency uses to identify relevant bankruptcy cases and actions is informal and essentially undocumented. As a result, it is not clear whether EPA is devoting sufficient time and resources to maximize the cleanup funds it can obtain under bankruptcy proceedings and to ensure that businesses are not receiving discharges of environmental liabilities inappropriately. We believe that EPA should build on the existing informal processes the agency is using and formalize and document its process for identifying relevant bankruptcy proceedings. In addition, we believe that EPA guidance on bankruptcy cases should be revised to emphasize some important actions that are not sufficiently addressed in existing guidance, such as routinely identifying contaminated sites identified in bankruptcy filings about which EPA is not familiar so that the agency can take appropriate steps to ensure that courts do not inappropriately discharge such environmental liabilities.

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## Recommendations for Executive Action

To close gaps in financial assurance coverage that expose the government to significant financial risk for costly environmental cleanups, the EPA Administrator should expeditiously implement the statutory mandate under Superfund to develop financial assurance regulations for businesses handling hazardous substances, first addressing those businesses EPA

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believes pose the highest level of risk of environmental contamination, as the statute requires.

In addition, to better ensure that the financial assurances EPA does require under the Superfund and RCRA corrective action programs provide sufficient funds for cleanups in the event liable parties do not fulfill their environmental obligations, EPA should enhance its efforts to manage and enforce the financial assurance requirements for Superfund and RCRA corrective action cleanups by taking the following actions:

- Evaluate the financial assurances the agency accepts in light of such factors as the financial risks EPA faces if liable parties do not meet their cleanup obligations; the varying financial risks posed by the individual financial assurance mechanisms; the agency's capacity to effectively oversee the various financial assurance mechanisms—in particular, the expertise of staff (federal and state) and the number of staff; the information gaps the agency faces in overseeing the various financial assurances; and the concerns about certain financial assurances, such as the corporate financial tests, corporate guarantees, and captive insurance, that have been brought to the agency's attention by state regulators, the EPA Inspector General, and others.
- If EPA continues to accept the corporate financial tests and corporate guarantees as financial assurance in these programs, it should revise and update its financial tests to address the deficiencies identified by the EPA Inspector General and others.
- Implement changes to Superfund and RCRA databases to support the efficient identification of EPA's portfolio of financial assurances and populate these databases with information on all financial assurances that liable parties should have in force, developing quality controls to ensure data reliability.
- Develop a strategy to effectively oversee the agency and state portfolios of financial assurances to ensure that all required financial assurances are in place and sufficient in the event the related businesses encounter financial difficulties, including bankruptcy. Such a strategy should include ensuring that adequate staffing resources with relevant expertise are available.
- Require that financial assurances be in place before EPA and liable parties finalize Superfund settlement agreements.



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In addition, to better ensure that EPA holds liable parties responsible for their cleanup obligations to the maximum extent practicable, the agency should seek opportunities to more fully use its enforcement tools, particularly tax and other offsets, and provide specific guidance to their staff on how and when to use these tools. For example, EPA should routinely take advantage of tax offsets when liable parties are not meeting their obligations—not just when parties file for bankruptcy.

To better ensure that EPA identifies relevant bankruptcy filings to pursue and bankruptcy actions to monitor, EPA should develop a formal process for monitoring bankruptcy proceedings and maintain data on bankruptcy filings reviewed, for example using an EPA Intranet site that would be readily available to all relevant staff.

Finally, we recommend that EPA revise and update its guidance on participation in bankruptcy cases to more clearly identify some actions needed to better protect the government's interest, such as steps to take to better ensure that the courts do not inappropriately discharge environmental liabilities and to specify that staff evaluating new bankruptcy filings should routinely determine whether EPA has any existing liens related to the filings.

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## Agency Comments and Our Evaluation

We provided EPA with a draft of this report for review and comment. In commenting on the draft, EPA generally agreed with many of the recommendations and said the agency will further evaluate its response to others. Appendix III contains the full text of the agency's comments and our responses.

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As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the report date. At that time, we will send copies to the Administrator, EPA; the Attorney General, Department of Justice; the Director, Office of Management and Budget; appropriate congressional committees; and other interested parties. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

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If you or your staff have any questions about this report, please contact me at (202) 512-3841 or [stephensonj@gao.gov](mailto:stephensonj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.

A handwritten signature in black ink, reading "John B. Stephenson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John B. Stephenson  
Director, Natural Resources  
and Environment

# Objectives, Scope, and Methodology

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GAO was asked to (1) determine how many businesses with liability under federal law for environmental cleanups have declared bankruptcy and how many such cases the Justice Department has pursued in bankruptcy court; (2) identify key challenges that EPA faces in holding bankrupt and other financially distressed businesses responsible for their cleanup obligations; and (3) identify actions EPA could take, if any, to better ensure that bankrupt and other financially distressed businesses pay the costs of cleaning up their contaminated sites to the maximum extent practicable.

To determine how many businesses with liability under federal law for hazardous waste cleanup costs have declared bankruptcy, we obtained bankruptcy case filing information from the Administrative Office of the U.S. Courts, which compiles data on the number of bankruptcy filings. Specifically, we obtained bankruptcy case filing information on the number of business bankruptcy filings under Chapters 7, 11, and 13 of the bankruptcy code for fiscal years 1998 through 2003. While the bankruptcy courts collect data on the number of businesses that file for bankruptcy each year and the Administrative Office of the U.S. Courts maintains these data in a national database, neither the courts, EPA, nor private providers of business data collect information on how many of these businesses have environmental liabilities. As a result, we were not able to report on the number of business bankruptcies with hazardous waste liabilities. To determine how many bankruptcy cases with liability under federal law the Justice Department has pursued in bankruptcy court on behalf of EPA, we spoke with officials from the Justice Department about the cases it received from EPA to determine which cases the department had pursued. We obtained data on the cases the Justice Department pursued on behalf of EPA where a proof of claim was filed for fiscal years 1998 through 2003.

To identify key challenges that EPA faces in holding bankrupt and other financially distressed businesses responsible for their cleanup obligations and to identify actions EPA could take to better ensure that bankrupt and other financially distressed businesses pay the costs of cleaning up their hazardous waste sites to the maximum extent practicable, we reviewed federal statutes and policies associated with hazardous waste management and cleanup, the federal bankruptcy code and procedures, and academic and professional literature addressing the intersection of environmental and bankruptcy law, corporate limited liability, forms of business organization, and asset management. We also interviewed enforcement officials from EPA headquarters and its 10 regional offices about how the agency identifies, pursues, and recovers federal environmental liabilities from financially distressed or bankrupt businesses; the challenges EPA

**Appendix I**  
**Objectives, Scope, and Methodology**

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faces in these tasks; and the extent to which the agency has used available enforcement tools in this effort. Finally, we attended EPA-sponsored training sessions on RCRA closure and post-closure financial assurances and on bankruptcy-related issues for EPA attorneys in order to learn more about these challenges as well as the financial assurances and other enforcement tools and procedures available to EPA to address these challenges.

We performed our work between September 2003 and July 2005 in accordance with generally accepted government auditing standards.

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# Chronology of EPA's Efforts to Develop Financial Assurance Requirements for Businesses Handling Hazardous Substances

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December 1980	Congress enacted the Comprehensive Environmental Compensation, Response, and Liability Act of 1980 (CERCLA, or the Superfund law), calling for, among other things, EPA to develop financial assurance requirements for businesses handling hazardous substances to demonstrate their ability to pay for environmental cleanup costs (CERCLA Section 108(b)(1)).
Early 1980s	EPA and its contractors produced issue papers on such topics as gaps in existing financial assurance requirements, the definition of "facility," and data sources for classifying facilities.
1983	In May, EPA published a Federal Register notice announcing the beginning of a process of identifying facility classes and seeking public comment on several issues related to identifying risk-based classes of industries and facilities handling hazardous substances. In November, the Director of EPA's Office of Solid Waste informed the Assistant Administrator for the Office of Solid Waste and Emergency Response that work on the facility classification effort was being halted because of a lack of contract funding and staff availability. In December, the statutory deadline passed for EPA to identify classes of facilities for which regulations would first be developed.
1987	EPA revisited the Superfund financial assurance requirements as part of a broader review of the Superfund program spurred by the 1986 amendments to the Superfund law. According to EPA officials, the agency developed recommendations to the Assistant Administrator for the Office of Solid Waste and Emergency Response for developing the regulations. However, EPA never acted upon these recommendations.
2004	An EPA internal review of the Superfund program recommended that the Office of Solid Waste and Emergency Response study whether promulgating financial assurance regulations under CERCLA could reduce Superfund liabilities for facilities not covered under RCRA financial assurance requirements. In response, EPA created a work group that is collecting and evaluating information on the types of facilities that have become Superfund National Priorities List sites as well as the industries represented among these sites.

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# Comments from the Environmental Protection Agency

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 14 2005

Mr. John B. Stephenson  
Director  
Natural Resources and Environment  
Government Accountability Office  
Washington, D.C. 20548

Dear Mr. Stephenson:

This letter is in response to the Government Accountability Office (GAO) final draft report titled "Environmental Liabilities: EPA Should Do More to Ensure that Liable Parties Meet Their Cleanup Obligations (GAO-05-658, July 2005)." We appreciate GAO's recognition of the challenges that EPA faces when holding bankrupt and other financially distressed businesses responsible for their cleanup obligations.

Generally, EPA agrees with many of the recommendations, or is in the process of evaluating information to determine whether such recommendations should be pursued. In fact, EPA has already undertaken a number of activities to address bankruptcy and financial assurance requirements for parties responsible for environmental contamination. These activities include designating financial assurance as an enforcement priority; soliciting advice from EPA's Environmental Financial Advisory Board on insurance, financial tests and whether to extend financial assurance to activities not currently covered; assessing the fiscal impact of various categories of facilities in the Superfund program and the utility of using authorities under CERCLA for financial assurance in response to recommendations from an internal EPA study; and providing training to states and regions on cost estimation and other financial assurance mechanisms. Our responses to the recommendations are provided in an enclosure to this letter.

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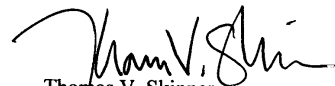
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Protection Agency**

We are confident that the efforts described in informal comments submitted to your office previously and in the enclosure here will result in improvements to the way EPA addresses bankruptcy and financial assurance issues for responsible parties. Further, we appreciate GAO's examination of EPA's past and current activities in this area.

Sincerely,



Thomas P. Dunne  
Deputy Assistant Administrator  
Office of Solid Waste  
and Emergency Response



Thomas V. Skinner  
Acting Assistant Administrator  
Office of Enforcement and  
Compliance Assurance

Enclosure: EPA General Comments on GAO Draft Report: Environmental Liabilities



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**Enclosure: EPA General Comments on GAO Draft Report: Environmental Liabilities  
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**Financial Assurance**

See comment 1.

While the GAO report recognizes that OECA has focused on financial assurance compliance and enforcement as an issue, EPA is concerned that the report does not capture the significance of those efforts. First, EPA has already recognized that this area needs added attention and has identified financial assurance as an OECA national priority in FY06/07. Second, in advance of FY06/07, EPA has undertaken significant efforts to enhance the capabilities of EPA and the States by providing multiple training sessions over the past two years on the RCRA financial assurance mechanisms. Participants from 34 states have attended these financial assurance training sessions. Third, OECA has already devoted significant levels of FTE and contractor dollars to assist EPA and State personnel in enhancing the compliance with, and enforcement of, financial assurance requirements. In short, OECA is already focusing on financial assurance compliance and enforcement and will continue to do so. While EPA recognizes issues with various financial assurance mechanisms, we think in the short run the largest gains will accrue from effective enforcement, compliance assistance, training and guidance.

As with virtually all enforcement priorities, OECA's implementation will include specific goals, targeting of enforcement resources, a communication strategy, and a capacity building component. The Report offers a number of suggestions with respect to financial assurance compliance and enforcement. EPA appreciates the suggestions offered and will consider those suggestions as it moves forward in its enforcement priority implementation. As part of its implementation, OECA will need to focus its resources to obtain the largest return on its compliance and enforcement efforts. The Report's identification of the greater risk where there are fewer entities available for funding a cleanup obligation recognizes an important component of financial assurance compliance and enforcement resource allocation.

EPA has also undertaken efforts to provide additional guidance and training on other important components of financial assurance. For example, OECA and OSWER are funding, and will continue to fund, training to EPA and State personnel on cost estimation software that can be used in reviewing cost estimates submitted by owners/operators for RCRA corrective action (RACER) and closure/post-closure care (CostPro). In addition to the training, EPA is purchasing licensed copies of the software for each individual that attends the training. Both RCRA Regional and State personnel have identified cost estimating as a necessary component of having adequate financial assurances at RCRA facilities and EPA has stepped forward to provide an important tool in helping to characterize expected cleanup costs, and attendant financial assurance obligations, at RCRA facilities. EPA anticipates that the cost estimation training (and software) will have been provided in each Region, for State and Regional personnel, by the end of 2006. We also want to note State efforts to improve cost estimation. For example, California has reported reviewing its cost estimates and in many cases has increased them substantially.

Moreover, as the Report recognizes, OSWER and OECA issued corrective action policy

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guidance in late 2003 explaining that requiring financial assurance earlier than remedy selection for corrective action can be appropriate and is one available mechanism for reducing the likelihood of taxpayers bearing the burdens of corrective action costs. The cost estimation training and software should enhance the ability of EPA and States to seek financial assurance prior to remedy selection in appropriate circumstances. EPA will continue to urge Regions and States to examine whether financial assurances can be provided earlier than remedy selection on a case by case basis. Additionally, EPA is in the process of modifying the RCRAInfo and CERCLIS information systems to capture financial assurance information. This important effort should help close many of the data gaps identified in the Report and increase EPA and the States implementation of financial assurance requirements.

See comment 2.

Now on p. 50.

On page 52, the Draft Report asserts that only one Region has performed a review of its financial assurance documentation. It does not mention the financial assurance review that was performed in Region III. In this review, Region III examined all issued RD/RA UAOs and CDs to determine if the bankruptcy or insolvency of any responsible party resulted in the incomplete work becoming the responsibility of EPA. Under this review, Region III identified 119 enforceable documents that related to 93 different sites. The total value of work to be performed under those documents exceeded \$1,400,000,000. As of the date of the completion of the first phase of this review, less than \$9,000,000 of this work was defaulted upon requiring intervention by the Superfund. This review indicates that Region III was taking pro-active steps to evaluate the viability of its financial assurance agreements before it knew of the GAO study. This review concluded that, to date, more than 99.4% of the work has been completed without a negative impact on the Superfund or the taxpayers.

See comment 3.

As the report points out, RCRA Subtitle C financial assurance is required to ensure funds are available for closure and post-closure care. However, a critical component of financial assurance that the report should emphasize is the preventative aspect under RCRA Subtitle C associated with the financial assurance requirements. By requiring financial assurance for closure or post-closure care in the event the owner or operator is unable or unwilling to perform cleanup, the owner or operator has an incentive to operate in a way that will minimize the costs required for closure, meaning that by running an efficient, clean operation, it should be easier in the future to perform closure. By requiring the owner or operator to post financial assurance there is a deterrent effect because the owner or operator is obligated to perform closure and has secured the financing for that closure in advance.

See comment 4.

The report should specify, in each instance, which type of financial assurance is the subject of the report's analysis. This is critical to clarify in each instance because RCRA Subtitle C (closure, post-closure and liability) is a preventative program and has specific financial assurance regulations. In contrast, the RCRA corrective action and Superfund programs deal with existing releases and do not have a financial assurance regulatory framework. The difference in these programs must be clear in the report to provide a better understanding of the enforcement actions available and limitations of these programs. A list of clarified references to RCRA Subtitle C, RCRA corrective action, or CERCLA financial assurance is included in the technical comments.

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See comment 5.

Further points of clarification that are crucial to understanding EPA's actions are that, the current RCRA Subtitle C regulations, facility owners and operators can choose any of the permissible financial mechanisms, as long as the mechanisms meet the regulatory standards. Additionally, EPA does not "approve" insurance instruments. Instead the RCRA Subtitle C regulations require that an insurance policy contain the language in the regulations and that if there are any inconsistencies between the policy language and the regulations, inconsistent policy terms are automatically amended to conform with the regulations. This provision protects EPA from having to approve each insurance submission.

**CERCLA 108(b)**

See comment 6.

GAO recommends that the EPA Administrator should expeditiously implement the statutory mandate under Superfund to develop financial assurance regulations for those businesses EPA believes pose the highest level of risk for financial assurance failure. EPA has underway several analyses of the cost of unfunded sites in response to the 120 Day Study, an internal self-assessment of the Superfund program. These analyses may also have implications for EPA's financial assurance programs and whether to extend financial assurance to operations that do not currently have requirements to provide financial assurance. The results of this analysis for any category of sites could lead to regulatory action under §108(b), revisions to existing financial assurance regulators, or other actions to address financial assurance shortfalls. Given these activities and the need to evaluate the most effective means by which to address financial assurance vulnerabilities, we believe that a conclusion that EPA should pursue 108(b) rulemaking to the exclusion of other options is premature.

See comment 7.

In the Agency's charge to the Environmental Financial Advisory Board (EFAB) regarding financial assurance, the Agency has included a number of issues, including "Should Financial Assurance Requirements Be Extended to Operations That Are Not Currently Required to Meet Them?" While the EFAB may wait until analysis of the 120 Day Study has been completed to determine if they will evaluate this question, the EFAB's advice would help guide the Agency in decisions on targeting specific categories of sites for CERCLA §108 rulemaking, revising RCRA financial assurance regulations, or undertaking other actions that would reduce the impact of unfunded cleanups on Superfund and states.

**Consultation with the Environmental Financial Advisory Board**

EPA has already begun investigations that anticipate some of the recommendations of the GAO's report. The Agency sought the advice of the Environmental Financial Advisory Board (EFAB) on several financial assurance matters and is currently awaiting recommendations from them. Among the questions we asked the Board are:

- 1) "Whether financial assurance requirements or similar mechanisms are appropriate for categories of facilities not currently covered by such requirements." This question preceded your recommendation that EPA develop financial assurance requirements for operations which are not currently covered. We understand that the Board has first undertaken work on the financial test and insurance because they believe that they should

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first understand how well the mechanisms work before recommending any extension of financial assurance.

- 2) "What are the strengths and pitfalls of the financial test and corporate guarantee?" The EFAB held a meeting in New York City in June 2004 on the financial test and corporate guarantee and has received comments on the draft letter that was produced as a result of that meeting. EPA believes it would be inappropriate to accept the draft findings based upon a draft letter from the EFAB since the final letter may differ with the draft.
- 3) "Should EPA continue to allow corporate siblings to guarantee the obligations of another subsidiary or should guarantees only be allowed for parents or higher level companies?" The draft report cites issues with corporate structures and the movement of assets among subsidiaries. EPA recognized this possibility when it raised this question to the EFAB.
- 4) "What are the strengths and pitfalls of insurance?" "Should there be minimum ratings of insurers that provide financial assurance?" "Should there be minimum capitalization requirements for captive or other insurers who provide policies for financial assurance and, if so, what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?" "Should policies written by captives and commercial insurers be treated as equally acceptable mechanisms?" "What are appropriate safeguards (such as capitalization, rating, coverage, etc.), if any, for insurance for a Brownfields cleanup?" All of the above are insurance questions EPA asked the EFAB and the EFAB held a day of hearings to solicit answers. As with the financial test questions, EPA is awaiting recommendations from the EFAB, particularly on captive insurance.

EPA appreciates the fact that GAO's identification of issues surrounding the financial test, corporate guarantee and captive insurance confirm the Agency's judgment that these are key issues. However, pending a review of the findings of the EFAB, internal investigations of the number of RCRA facilities going to Superfund, and its own Inspector General's upcoming report, EPA believes it would be premature to commit to revisions to the financial test or its insurance requirements for financial assurance in response to the GAO recommendations based upon the draft comments of the EFAB.

**Insurance**

Beginning on page 48, the Draft Report discusses the use of insurance as a form of financial assurance. The Draft Report focuses on the relative "riskiness" of insurance in comparison to letters of credit, bonds or trusts. The Draft Report also discusses the risk inherent in accepting insurance from captive insurers. The Draft Report, however, ignores the growing market in insurance products offered by third party independent insurers that are specifically designed to meet financial assurance requirements. Depending on the program (RCRA Subtitle C, corrective action, or Superfund), there may be a variety of insurance products designed to address several types of risks. For example, there are insurance products associated with CERCLA or corrective action to address cleanup risks (e.g. cost overrun insurance, which provides reimbursement if cleanup costs exceed a certain amount, remediation completion insurance, which – like a surety bond – provides for completion of the cleanup if the PRP becomes insolvent, etc.). While not all of these insurance products are appropriate for every site,

See comment 8.

Now on p. 42.

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many of them, used independently or in conjunction with other forms of financial assurance, may provide effective, cost efficient financial assurance. This is especially true in the context of short term response actions (e.g., one to two year durations). The Draft Report failed to mention that EPA, at both the HQ and Regional levels, is actively reviewing the viability of such insurance for financial assurance and providing training for its staff on this issue.

**Bankruptcy**

See comment 9.

Our initial concern with the Draft Report is the first paragraph of the summary/highlights page. This sentence states: *"While more than 231,000 businesses operating in the United States filed for bankruptcy in fiscal years 1998 through 2003, the extent to which these businesses had environmental liabilities is not known because neither the federal government nor other sources collect this information. Information on bankrupt businesses with federal environmental liabilities is limited to data on the bankruptcy cases that the Justice Department has pursued in court on behalf of EPA. In that regard, the Justice Department initiated 136 such cases from 1998 through 2003."* We believe this paragraph is misleading and implies a lack of will or ability on the part of EPA to pursue environmental bankruptcy cases. It is not appropriate to begin this Draft Report with such a statement that leads a reader to believe that EPA is not willing to pursue more environmental bankruptcy cases. Also, the statement does not acknowledge that it is unknown how many of the 231,000 bankruptcy filings had either environmental liability or any assets remaining to warrant our intervention. What can be said is that there were 136 cases that involved potential federal environmental claims. Since this is the leading paragraph and sets the tone of the Draft Report, we suggest the introduction be re-written so that the reader is not focused on the 136 cases out of 231,000 filings ratio.

See comment 10.

Now on pp. 18 and 30.

The Draft Report states on pages 18 and 31 that EPA does not maintain information on bankruptcies that it does not pursue. This is not completely accurate. The EPA Bankruptcy Workgroup is currently exploring the possibility of using – on a Nationwide basis – the comprehensive database developed in Region III. During some of its monthly conference calls, the Bankruptcy Workgroup has discussed the steps that would be necessary to extend the database Agency-wide. In its current form, the database tracks all bankruptcies that come into the Region, even those in which the Agency does not file a claim. To capture this information, the database has a data field to indicate if the bankruptcy were "closed out" (i.e. the Region choose not to file a claim).

See comment 11.

In addition to the database, since May 5, 2003, Region III has had a bankruptcy protocol which provides for a formal decision not to pursue a bankruptcy case. The "close out" memo documents the efforts to discover potential claims and the result. The memo then provides the basis for not pursuing a claim (e.g. no claims discovered, debtor assets too insignificant to pursue, transaction costs would exceed expected recovery, etc.). This close out process is a natural outgrowth of the recent EPA Bankruptcy Protocols (May 2005). The information collected pursuant to the Bankruptcy Protocols provides sufficient documentation to justify and explain the Agency's decision to pursue or not pursue a claim in a particular bankruptcy. The only additional step that EPA would need to take in order to meet the GAO critique regarding this issue is to make a formal documentation of its decision. Therefore, the foregoing

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demonstrates that EPA is actively taking steps to better track and document all bankruptcies of which it receives notice.

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The following are GAO's comments on the Environmental Protection Agency's letter dated July 14, 2005.

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## GAO Comments

1. We acknowledge and commend EPA for the actions the agency has initiated and for its plan to develop and implement other actions to improve compliance with the enforcement of financial assurance requirements, as EPA highlights in this and the next three paragraphs. The management challenges EPA faces in this regard are complex, but the potential benefits the agency can receive from effective financial assurances are substantial. We believe that if EPA implements our recommendations as part of its compliance and enforcement efforts focusing on financial assurance, EPA's ability to hold liable parties responsible for their environmental cleanup obligations will be substantially improved.
2. Although we obtained information about region III's review of financial assurances, we did not cite it in our report for several reasons. For example, unlike the other regional review, the region III review is not a compliance audit of financial assurances in Superfund settlements. As such, this review does not identify either Superfund settlement agreements that do not include financial assurances or the number of sites that do not have settlements in place. In addition, the reported financial impact on the government for the sites in region III's review is preliminary and will remain so until the cleanups at the sites reviewed are completed because the financial assurances may not reflect the actual cleanup costs. For example, as discussed earlier, EPA often settles for less than the full cleanup cost as a result of equitable factors or ability-to-pay issues. In addition, the financial assurances may relate to work to identify the potential cleanup remedies and not to the cost of the cleanup, which may not yet be known. An example of a case included in the study that substantially understates the negative impact on the Superfund and the taxpayers is the Metachem/Standard Chlorine case discussed in our report. According to the official who conducted this review, while the review identifies a loss of \$3.75 million associated with the Metachem site, EPA expects the government will have to spend about \$100 million to clean up the site.
3. We disagree with EPA's view that the report does not highlight the preventive aspect of financial assurance. In discussing the purpose of financial assurance, the draft and final reports point out that the fact that the parties responsible for the contamination are also responsible



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**Appendix III**  
**Comments from the Environmental**  
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for cleaning it up encourages businesses to adopt responsible environmental practices. While EPA's comments acknowledging the benefits of prospective financial assurance are limited to the RCRA closure and post-closure programs, we hope that the agency recognizes that these same preventive benefits can be more broadly attained by implementing the financial assurance requirements mandated by the Superfund law under section 108(b), which also provide for prospective financial assurances from businesses at risk for environmental contamination.

4. EPA's comment suggests that the agency's enforcement options are limited under its RCRA corrective action and Superfund programs because the agency has not developed financial assurance regulations for these programs. If this is the case, EPA should seek to correct this situation as it develops specific goals to address financial assurance as a national enforcement priority.
5. We have revised the final report to reflect that under EPA's current regulations for financial assurance for closure and post-closure, facility owners and operators may choose any of the permissible mechanisms, as long as the mechanism meets the regulatory standards. However, these regulations do not apply to the Superfund and RCRA corrective action programs, and therefore do not constrain EPA's authority to accept or decline a proffered financial assurance mechanism related to a cleanup under these programs. Similarly, with respect to insurance, the RCRA regulations EPA cites apply only to the closure and post-closure programs. Thus, for Superfund and RCRA corrective action, regulatory vigilance over the terms of the policies is still necessary.
6. The Superfund law requires EPA to develop financial assurance regulations for classes of facilities that pose a risk for environmental contamination, starting with those that pose the "highest level of risk of injury." This requirement is not, as EPA's comments suggest, limited to those that pose the highest risk for financial assurance failure. Our recommendation is for EPA to comply with the requirements in the Superfund statute. In its comments, EPA misstates the GAO recommendation by focusing on classes of facilities at risk for financial assurance failure. We are concerned that the agency is narrowly construing a broad statutory mandate that requires the agency to establish, as appropriate, prospective financial assurance requirements for entities at risk for environmental pollution. Further, EPA may miss the forest for the trees by focusing too narrowly on its ongoing study of

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**Appendix III**  
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NPL Superfund sites as a basis or rationale for implementing the section 108(b) mandate. The universe of businesses at risk for environmental contamination is much broader than Superfund NPL sites—for example, NPL sites represent about 10 percent of contaminated sites identified in the Superfund database. Finally, we did not conclude, as EPA asserts, that EPA should pursue section 108(b) rule makings to the exclusion of other options. Nonetheless, we reject any assertion by EPA that implementing section 108(b) is optional. EPA is required to carry out the terms of the statute, and nothing in section 108(b) authorizes EPA to determine that such actions are unnecessary. By passing section 108(b), the Congress has determined that its provisions are necessary; should EPA believe otherwise, it must seek legislative relief. During the 25 years section 108(b) has been in effect, EPA has not sought amendment or repeal of the requirement.

7. EPA's comment that it will not consider whether to implement section 108(b) until certain evaluations are complete indicates that it views implementation of the statutory mandate under the Superfund law to establish financial assurance for classes of facilities at high risk for environmental contamination as optional. However, as noted above, it is not. We believe the efforts of the Environmental Financial Advisory Board (EFAB) and EPA under the 120-day study may provide important and useful information to aid EPA's implementation of section 108(b) and the agency's other financial assurance responsibilities. However, these efforts cannot provide a basis for the agency to simply decline to carry out the actions required under section 108(b).
8. Our report provides some general information and issues about insurance as one of the approved financial assurance mechanisms. However, the scope of our work did not include an analysis of the types of insurance products currently available or of all of EPA's actions regarding insurance products. Instead, our work focused on issues and concerns about some insurance products identified by the EPA Inspector General and others.
9. In response to the questions posed by our requesters, we report the number of business bankruptcies and inform readers that information to identify how many of these bankruptcies involved environmental liabilities does not exist. We also report, as requested, on the number of bankruptcy cases that EPA and the Justice Department have pursued in bankruptcy court. EPA believes that this information in the first section of the report will lead readers to conclude that the agency is not willing

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**Appendix III**  
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to pursue more environmental bankruptcy cases. We disagree. For example, we report that without information on the number of bankruptcy cases involving environmental liabilities, EPA's efforts in identifying and pursuing relevant bankruptcies cannot be evaluated. Further, our report provides information on some of the reasons EPA may choose not to pursue bankruptcy cases in court—for example, many chapter 7 bankruptcies involve businesses with few or no assets.

10. Our report accurately reflects that EPA does not maintain information on bankruptcies it does not pursue. EPA's comments show that only one region maintains such data. Further, while EPA states that there have been discussions concerning collecting these data agencywide, the agency does not report a decision or plan to do so.
11. The fact that one region is documenting its decisions regarding bankruptcy cases does not demonstrate that the agency as a whole is taking steps to better track and document all bankruptcies of which it receives notice. We note that expanding the use agencywide of the close-out memo used by region III is the type of action/documentation we had in mind in recommending that EPA develop a formal process for monitoring bankruptcy proceedings and maintaining data on bankruptcy filings reviewed.

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# GAO Contact and Staff Acknowledgments

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## GAO Contact

John B. Stephenson, (202) 512-3841

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## Staff Acknowledgments

In addition to the individual named above, Christine Fishkin, Assistant Director; Nancy Crothers; Richard Johnson; Les Mahagan; and Susan Swearingen made key contributions to this report. Also, Catherine Hurley; William O. Jenkins, Jr.; Jean McSween; Jamie Meuwissen; Mary Mohiyuddin; Jennifer Popovic; Aaron Shiffrin; and Gary Stofko made important contributions. Finally, Greg Carroll; Terrance N. Horner, Jr.; Mike Kaufman; Jerry Laudermilk; Karla Springer; and Joseph D. Thompson provided important assistance during final report review.

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# Related GAO Products

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*Superfund Program: Breakdown of Appropriations Data.* [GAO-04-787R](#). Washington, D.C.: May 14, 2004.

*Superfund Program: Updated Appropriation and Expenditure Data.* [GAO-04-475R](#). Washington, D.C.: February 18, 2004.

*Superfund Program: Current Status and Future Fiscal Challenges.* [GAO-03-850](#). Washington, D.C.: July 31, 2003.

*Hazardous Materials: EPA's Cleanup of Asbestos in Libby, Montana, and Related Actions to Address Asbestos-Contaminated Materials.* [GAO-03-469](#). Washington, D.C.: April 14, 2003.

*Superfund: Half the Sites Have All Cleanup Remedies in Place or Completed.* [GAO/RCED-99-245](#). Washington, D.C.: July 30, 1999.

*Superfund: Progress Made by EPA and Other Federal Agencies to Resolve Program Management Issues.* [GAO/RCED-99-111](#). Washington, D.C.: April 29, 1999.

*Hazardous Waste: Progress under the Corrective Action Program Is Limited, but New Initiatives May Accelerate Cleanups.* [GAO/RCED-98-3](#). Washington, D.C.: October 21, 1997.

*Superfund: Duration of the Cleanup Process at Hazardous Waste Sites on the National Priorities List.* [GAO/RCED-97-238R](#). Washington, D.C.: September 24, 1997.

*Superfund: Number of Potentially Responsible Parties at Superfund Sites Is Difficult to Determine.* [GAO/RCED-96-75](#). Washington, D.C.: March 27, 1996.

*Superfund: EPA Has Opportunities to Increase Recoveries of Costs.* [GAO/RCED-94-196](#). Washington, D.C.: September 28, 1994.

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**Related GAO Products**

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*Hazardous Waste: Funding of Postclosure Liabilities Remains Uncertain.* [GAO/RCED-90-64](#). Washington, D.C.: June 1, 1990.

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*Hazardous Waste: Environmental Safeguards Jeopardized When Facilities Cease Operating.* [GAO/RCED-86-77](#). Washington, D.C.: Feb. 11, 1986.

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## **EXHIBIT 3**



United States Government Accountability Office  
Washington, DC 20548

July 18, 2008

Congressional Requesters

Subject: *Superfund: Funding and Reported Costs of Enforcement and Administration Activities*

The Environmental Protection Agency (EPA) estimates that one in four Americans lives within 3 miles of a hazardous waste site. To clean up these highly contaminated sites, the Congress established the Superfund program under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980. EPA, the principal agency responsible for administering the Superfund program, has since identified more than 47,000 hazardous waste sites potentially requiring cleanup actions and has placed some of the most seriously contaminated sites on its National Priorities List (NPL). Through the end of fiscal year 2007, EPA had classified 1,569 sites as NPL sites.<sup>1</sup>

Cleanup efforts at NPL sites are typically expensive and can take many years. There are two basic types of cleanup actions: (1) removal actions—generally short-term or emergency cleanups to mitigate threats—and (2) remedial actions—generally long-term cleanup activities. Among other efforts, EPA may respond to and provide technical support for emergency actions, collect and analyze site data, and design and construct remedies, or oversee the work of others. However, the parties responsible for contributing to the contamination of a hazardous waste site are also primarily responsible for conducting or paying for the cleanup of the site. Responsible parties include current or former owners or operators of a site or the generators and transporters of the hazardous substances. CERCLA authorizes EPA to compel the responsible parties to clean up contaminated sites and also allows EPA to conduct cleanups and then seek reimbursement from the responsible parties. One of EPA's goals is ensuring that, to the extent possible, parties who are responsible for the contamination perform or pay for cleanup actions. In some cases, however, parties cannot be identified or may be unwilling or financially unable to perform the cleanup; we previously found that the number of NPL sites without viable responsible parties may be increasing.<sup>2</sup> In these cases, EPA can assume responsibility for site cleanup and seek reimbursement from any responsible parties that can be identified. The states may also play a significant role in cleaning up hazardous waste sites. Most states have established programs to help address hazardous waste sites, although many states have limited capacity to address costly and complex sites.

<sup>1</sup>This number includes those sites on the NPL as well as those deleted from the NPL.

<sup>2</sup>GAO, *Superfund Program: Current Status and Future Fiscal Challenges*, [GAO-03-850](#) (Washington, D.C.: July 31, 2003).

To fund program activities, CERCLA established a trust fund that was financed primarily by taxes on crude oil and certain chemicals, as well as an environmental tax assessed on corporations based upon their taxable income. Although the authority for these taxes expired in 1995, some tax revenues have continued to accrue to the fund as audits of past years' tax returns have led to the recovery of Superfund taxes previously owed by companies. In addition, the trust fund continued to receive revenue—also referred to as receipts—from various other sources, including appropriations from the general fund.<sup>3</sup> EPA receives annual appropriations from the trust fund for program activities; since 1981, Superfund appropriations have totaled over \$32 billion in nominal dollars, or about \$1.2 billion annually.<sup>4</sup> CERCLA authorizes EPA to use its Superfund appropriation to conduct cleanup actions, and the agency's Office of Solid Waste and Emergency Response (OSWER) is accountable for achieving Superfund's cleanup goals.<sup>5</sup>

CERCLA also authorizes EPA to use its Superfund appropriation for activities that support site cleanup. EPA's Office of Enforcement and Compliance Assurance (OECA) is responsible for enforcement actions, such as identifying responsible parties, compelling them to clean up the site, and recovering cleanup costs. Other EPA support offices, such as the Office of Administration and Resources Management and the Office of the Chief Financial Officer, help administer and manage the program. EPA has been criticized for the percentage of the total Superfund appropriation that it spends on support activities rather than directly to clean up sites on the NPL.

In this context, you asked us to examine the (1) sources of funding for the Superfund trust fund and (2) allocation of these resources to Superfund program activities, particularly enforcement and administration.

To determine the sources of funding that support the Superfund trust fund, we reviewed the President's Budget Appendices. We also reviewed annual appropriations laws and related committee reports. We analyzed the data in these documents and discussed our findings with EPA budget experts. To evaluate the costs of program activities, we obtained EPA data on overall Superfund program expenditures—also referred to as outlays—for fiscal years 1999 through 2007, as well as more detailed data on enforcement and administration expenditures. We also analyzed EPA data on the outcomes of its enforcement activities—specifically EPA's estimated value of these outcomes—for fiscal years 1979 through 2007, although we did not verify the accuracy of these estimates. In its response to a draft of this report, EPA indicated that the agency continually corrects and updates its historical Superfund enforcement outcome data, and therefore provided us with updated data through June 2008, which we have incorporated into the report. However, because changes to EPA's data are on-going, future analyses of this database may not match our results. In addition, we reviewed relevant documents, such as the Superfund Program Implementation Manual and prior evaluations of

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<sup>3</sup>The federal budget consists of several types of funds, including, among others, the general fund, special funds, and trust funds. General funds are the revenues not designated for specific purposes and fund, among other things, national defense, interest on the public debt, the operating expenses of most federal agencies, many grants to state and local governments, and some entitlements.

<sup>4</sup>Nominal dollars have not been adjusted for inflation.

<sup>5</sup>Only sites on the NPL are eligible for remedial actions financed by the trust fund; resources from the trust fund may be used to finance other types of response activities, such as removal actions, at both NPL and non-NPL sites.

the Superfund program, and interviewed agency officials in OSWER, OECA, and the Office of the Chief Financial Officer. Finally, we conducted detailed evaluations of the reliability of the data used in our analyses and concluded that these data were sufficiently reliable for our purposes; where necessary in the report, we note potential limitations of these data. We converted all dollar figures into constant 2007 dollars, except when we refer to dollars in appropriations documents; for those dollar figures, we use nominal dollars, in accordance with our policy to report the dollars that have actually been appropriated. For more detailed information on our scope and methodology, see enclosure I.

We conducted this performance audit from July 2007 to July 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## **Results in Brief**

The Superfund trust fund has received revenue from four major sources: taxes on crude oil and certain chemicals, as well as an environmental tax assessed on corporations based upon their taxable income; appropriations from the general fund; fines, penalties, and recoveries from responsible parties; and interest accrued on the balance of the fund. The contribution of each of these sources changes from year to year, although trends are evident when comparing the composition of trust fund revenue during the periods before and after the expiration of Superfund's taxes. For fiscal years 1981 through 1995, after which Superfund-related taxing authority expired, taxes accounted for about 68 percent of trust fund revenues; appropriations from the general fund for 17 percent; interest for 9 percent; and fines, penalties, and recoveries for 6 percent. In contrast, from fiscal years 1996 through 2007, taxes accounted for about 6 percent of trust fund revenues; appropriations from the general fund for about 59 percent; interest for about 16 percent; and fines, penalties, and recoveries for about 19 percent. Each year, appropriations laws stipulate the level of the annual EPA Superfund program appropriation from the trust fund, and, regardless of the balance of the fund, EPA can only expend what is appropriated. For fiscal years 1981 through 2007, the Congress appropriated an annual average of \$1.2 billion in nominal terms to EPA's Superfund program, although the annual level of appropriated funds has declined in recent years when adjusted for inflation. The balance of the trust fund also declined from \$4.7 billion at the start of fiscal year 1997 to \$173 million at the start of fiscal year 2007. In addition to setting an overall level of funds available for EPA's Superfund program, the Congress has transferred portions of EPA's Superfund appropriation to other agencies or programs that support site cleanup.

For fiscal years 1999 through 2007, EPA spent 77 percent of its Superfund monies on remedial and removal activities and almost all of the rest on enforcement and administration activities. During this period, overall program expenditures declined nearly 30 percent in constant dollars, from \$1.8 billion in fiscal year 1999 to \$1.3 billion in fiscal year 2007, mostly due to a decline in expenditures for remedial activities. Enforcement expenditures made up the largest portion of expenditures after site cleanup activities for fiscal years 1999 through 2007. EPA's annual enforcement expenditures fell from \$243 million to \$187 million over this period, but they consistently accounted for between 13 percent and 15 percent of total Superfund expenditures. Based on our analysis of EPA's data, agency enforcement activities at NPL sites through fiscal year 2007 have cumulatively provided benefits valued at \$29.9 billion to the program, mostly

from commitments from responsible parties to conduct cleanup actions. Superfund program administration costs also declined from fiscal year 1999 through fiscal year 2007, from \$143 million to \$132 million. Although declining in constant dollars, these costs increased from 8 percent to 10 percent of total Superfund expenditures during this period. EPA's data on Superfund program administration costs include the costs of activities undertaken by its support offices, such as efforts by the Office of the Chief Financial Officer to operate the agency's financial management system, which processes and documents Superfund program expenditures, data which is necessary to recoup cleanup and oversight costs. However, we identified inconsistencies in the data received for this report when compared to estimates of Superfund administration costs in previous reports published by the agency's Inspector General and others. These inconsistencies stem from, in part, differences in how administration costs are defined and classified. Moreover, some previous reports also identified potential inaccuracies in EPA's administration costs, including outdated information on the number of staff performing Superfund work, which is used in EPA's calculation of these costs. These inconsistencies and inaccuracies make it difficult to reliably estimate trends in Superfund administration costs over time.

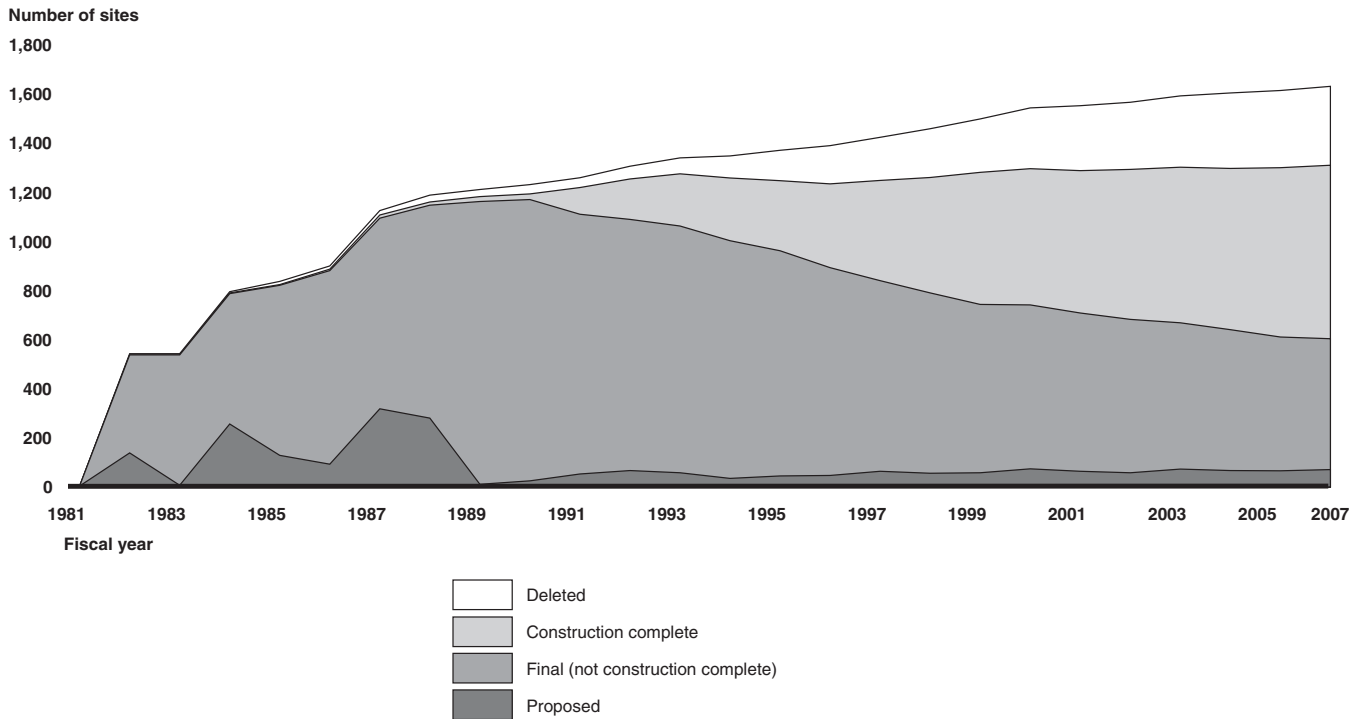
We provided a draft of our report to EPA and the Department of Justice for comment. EPA generally agreed with the report's descriptions of Superfund funding sources, and stated that the report provided a sound historical representation of trust fund balances and revenue and an accurate description of the program. The agency also provided some specific suggestions and technical clarifications, which we incorporated into the report as appropriate. EPA's comments are reprinted in enclosure II. The Department of Justice did not comment on the draft, but provided a technical clarification, which we incorporated into the report.

## Background

The Superfund cleanup process begins with the discovery of a potentially hazardous site or the notification to EPA of possible releases of hazardous substances that may threaten human health or the environment. Citizens, state agencies, EPA regional offices, and others may alert the agency to such threats. EPA regional offices use a screening system to numerically assess the potential of sites to pose a threat to human health and the environment; those sites that score sufficiently high are eligible for proposal to the NPL. EPA publishes a list of proposed sites in the *Federal Register*; the list is subject to a period of public comment. Those proposed sites that are later listed on the NPL are known as "final" NPL sites. Cleanups at NPL sites progress through several steps: investigation and study, remedy selection and design, and remedial action. When all physical construction at a site is complete, all immediate threats have been addressed, and all long-term threats are under control, EPA generally considers the site to be "construction complete." Most sites then enter into an operation and maintenance phase when the responsible party or the state ensures that the remedy continues to protect human health and the environment. EPA may have further responsibilities at a site after construction is completed, such as continuing groundwater restoration efforts or monitoring the sites to ensure that the remedy remains protective of human health and the environment. Eventually, when EPA and the state determine that no further site response is needed, EPA deletes the site from the NPL. Figure 1 illustrates the number of sites at each stage of the NPL process since the Superfund program began. By the end of fiscal year 2007, EPA had proposed 66 sites that it either decided not to list or had not yet determined whether to list on the NPL. Moreover, of the 1,569 NPL sites, (1) 321 were deleted because they no longer posed threats to human health or

the environment; (2) 713 were declared construction complete, but not yet deleted; and (3) 535 were not yet construction complete by the end of fiscal year 2007.<sup>6</sup>

**Figure 1: Status of Proposed, Final, and Deleted NPL Sites, by Fiscal Year**



Source: GAO analysis of EPA data.

Note: Although the Superfund program began in 1981, no sites were listed on the NPL until 1982. Most of the deleted sites shown were also classified as construction complete. However, for purposes of depicting the status of cleanup of sites on the NPL, we chose to include in the construction complete category only those sites that EPA had declared construction complete but had not yet deleted from the NPL.

EPA also conducts removal actions, which are often short-term cleanups or preventive actions at sites that pose immediate threats to human health or the environment. Removal actions may include, for example, excavating contaminated soil, erecting a security fence, stabilizing a dike or impoundment, or taking abandoned drums to a proper disposal facility to prevent the release of hazardous substances into the environment. CERCLA limits removals conducted by EPA to a 1-year effort and \$2 million in expenditures, although some removal actions may qualify for exemptions to these limits.

CERCLA established a liability scheme that holds certain parties responsible for the release or threat of release of hazardous substances. Furthermore, courts have interpreted responsible-party liability under Superfund to be strict, joint and several, and retroactive. Under strict liability, a party may be liable for cleanup even though its actions were not considered negligent when it disposed of the wastes. Because liability is joint and several, when the harm done is indivisible, one party can be held responsible for the full cost of the remedy even though that

<sup>6</sup>Almost all of the deleted sites were declared construction complete prior to deletion; however, according to EPA, of the 321 deleted sites, four sites were deleted and referred to other authorities without being declared construction complete. Additionally, five sites were proposed for listing but were deleted before being finalized on the NPL.



party may have disposed of only a portion of the hazardous substances at the site. Retroactive liability means that liability applies to actions that took place before CERCLA was enacted.

Early in the cleanup process, EPA conducts a search to find all of the potentially responsible parties. It collects evidence to support the identification of individual parties by issuing information requests (under CERCLA's authority); reviewing documents, such as shipping records; conducting interviews; and performing other research. As part of this process, EPA not only determines parties' involvement at the site but also potential legal defenses or exemptions from liability. CERCLA provided EPA with several mechanisms to compel identified parties to assume responsibility for cleaning up Superfund sites. If EPA has already conducted work at a site—including investigating a potential Superfund site or monitoring the work of others—the agency can recover the costs of these activities, as well as related support costs. Moreover, EPA can order, or ask a court to order, responsible parties to conduct the work directly. If the responsible parties do not comply with EPA's orders, they may be liable for fines accrued each day of noncompliance as well as damages of up to three times the amount spent by EPA as a result of the parties' noncompliance—in addition to the costs of cleanup—creating a substantial incentive for compliance. Other Superfund enforcement authorities include, for example, receiving reimbursement for the costs of overseeing responsible parties' efforts.

Since 1990, EPA and the Department of Justice have pursued a policy of “enforcement first,” which emphasizes that responsible parties should clean up Superfund sites when possible. Moreover, these agencies prefer to induce parties to clean up sites through settlement rather than by ordering parties to conduct such work or bringing lawsuits against them. EPA has previously reported that, if the agency has funds available to conduct cleanup actions at a site, responsible parties may be more likely to take responsibility for the cleanup because they may believe that delaying settlement could lead EPA to proceed with the cleanup, and fighting and losing a cost recovery lawsuit would be more expensive than undertaking the cleanup themselves.<sup>7</sup> Additionally, several CERCLA provisions and EPA procedures assist in the settlement process with certain types of parties. For example, EPA may assume responsibility for a portion of the response costs in cases where one or more responsible parties are unable to contribute, so as to reduce the liability of other parties. In the case of some small contributors—known as *de minimis* parties—EPA attempts to achieve an early settlement in exchange for protection from further enforcement action.

### **Superfund Trust Fund Revenue Has Decreased and the Funding Sources' Relative Contributions Have Changed over Time**

The Superfund trust fund has received revenue from four major sources: (1) taxes on crude oil and certain chemicals, as well as an environmental tax assessed on corporations based upon their taxable income; (2) appropriations from the general fund; (3) fines, penalties, and recoveries from responsible parties; and (4) interest accrued on the balance of the fund. The contribution that each of these sources has provided to funding the Superfund program has varied over time, particularly since the expiration of Superfund's taxes in 1995. Each year, the Congress decides how much money to appropriate for EPA's Superfund program from the trust fund and provides direction on how the funds should be spent. The annual level of appropriations to EPA's Superfund program has declined over time.

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<sup>7</sup>EPA, *Superfund: Building on the Past, Looking to the Future*, (Washington, D.C.: Apr. 22, 2004).

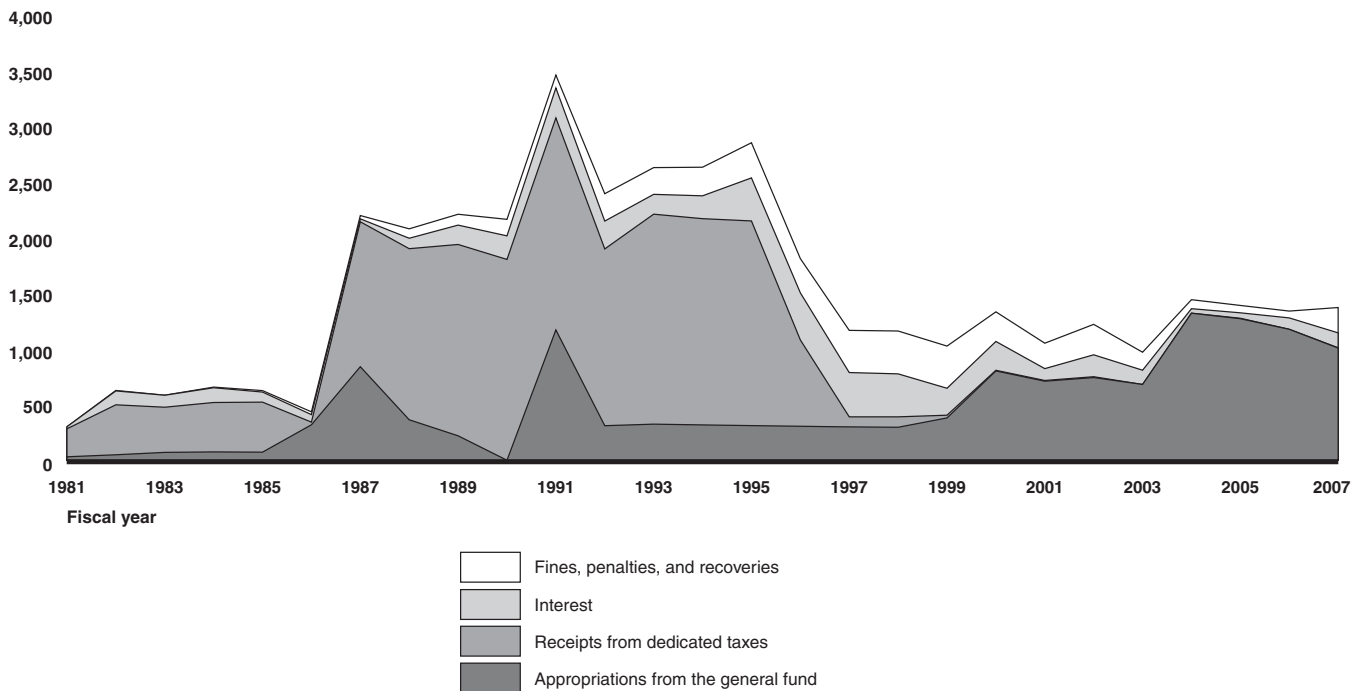


### Four Major Revenue Sources Support the Superfund Program, the Largest of Which Is Now Appropriations from the General Fund

Figure 2 shows the contribution of the four principal sources of trust fund revenue since the program's inception in fiscal year 1981.

**Figure 2: Major Sources of Revenue for the Superfund Trust Fund, Fiscal Years 1981 through 2007**

Constant 2007 dollars in millions



Source: GAO analysis of data from the President's Budget Appendices.

Note: In fiscal year 1981, the trust fund received an appropriation from the Pollution Fund. We have included this money under the category of appropriations for ease of presentation. We did not include revenue from offsetting collections, as these data were only available for selected years.

For fiscal years 1981 through 2007, taxes constituted, on average, about 45 percent of revenue for the Superfund trust fund, while appropriations from the general fund made up about 33 percent. Accrued interest and fines, penalties, and recoveries constituted smaller portions of trust fund revenue, at about 12 percent and 11 percent, respectively.<sup>8</sup>

These overall numbers mask changes over time in the composition of the Superfund trust fund. In particular, the expiration of the Superfund taxes in 1995 significantly changed the relative contributions of the key sources of trust fund revenue. For fiscal years 1981 through 1995, Superfund's taxes accounted for approximately 68 percent of trust fund revenue. In recent years, however, the trust fund has increasingly relied on appropriations from the general fund. From fiscal year 1996 through 2007, appropriations from the general fund accounted for nearly 60 percent of trust fund revenue. Table 1 compares trust fund revenue from the period before and after the taxes expired.

<sup>8</sup>Totals add to more than 100 percent due to rounding.

**Table 1: Trust Fund Revenue in the Periods before and after the Superfund Taxes Expired**

Constant 2007 dollars in millions		
Revenue source <sup>a</sup>	Fiscal years 1981-1995 (percent of total revenues)	Fiscal years 1996-2007 (percent of total revenues)
Receipts from dedicated taxes <sup>b</sup>	\$18,018 (67.5%)	\$936 (6.0%)
Appropriations from the general fund <sup>c</sup>	4,616 (17.3)	9,281 (59.2)
Interest	2,412 (9.0)	2,543 (16.2)
Fines, penalties, and recoveries	1,634 (6.1)	2,906 (18.6)
<b>Total</b>	<b>\$26,680 (100%)</b>	<b>\$15,667 (100%)</b>

Source: GAO analysis of data from the President's Budget Appendices.

Notes: Percents and totals may not add due to rounding.

<sup>a</sup>We did not include revenue from offsetting collections, as these data were only available for selected years.

<sup>b</sup>The Superfund program continued to collect some taxes after the authority expired as a result of adjustments to prior years corporate tax returns based on audits conducted by the Internal Revenue Service.

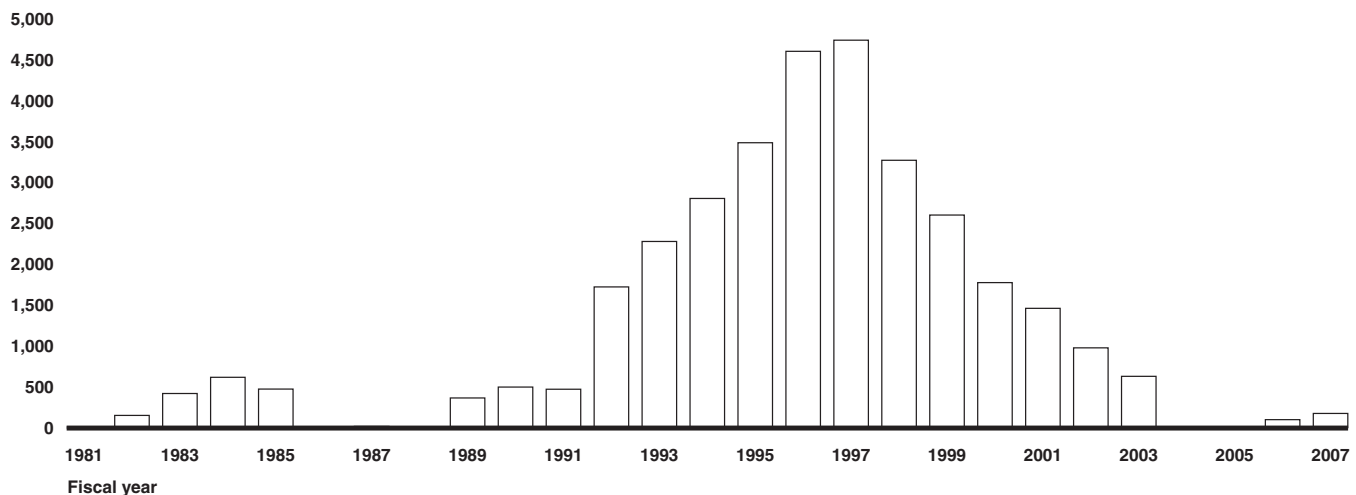
<sup>c</sup>In fiscal year 1981, the trust fund received an appropriation from the Pollution Fund. We have included this money under the category of appropriations for ease of presentation.

### The Superfund Trust Fund Balance Has Decreased Since the Expiration of the Taxes

The balance of the trust fund has varied over time, largely depending on the government's ability to collect taxes to support the Superfund program. For example, when the balance of the trust fund fell in the mid-1980s, the Superfund Amendments and Reauthorization Act of 1986 extended the Superfund taxes and provided additional taxing authority. In 1995, the authority for the taxes expired, and it has not been reinstated. Shortly after the expiration of the taxes, at the start of fiscal year 1997, the trust fund balance reached its peak at \$4.7 billion; in 1998, the trust fund balance began decreasing. Figure 3 shows changes in the balance of the Superfund trust fund for fiscal years 1981 through 2007. At the start of fiscal year 2007, the trust fund had a balance of \$173 million.

**Figure 3: Balance of the Superfund Trust Fund at the Start of Each Fiscal Year**

Constant 2007 dollars in millions



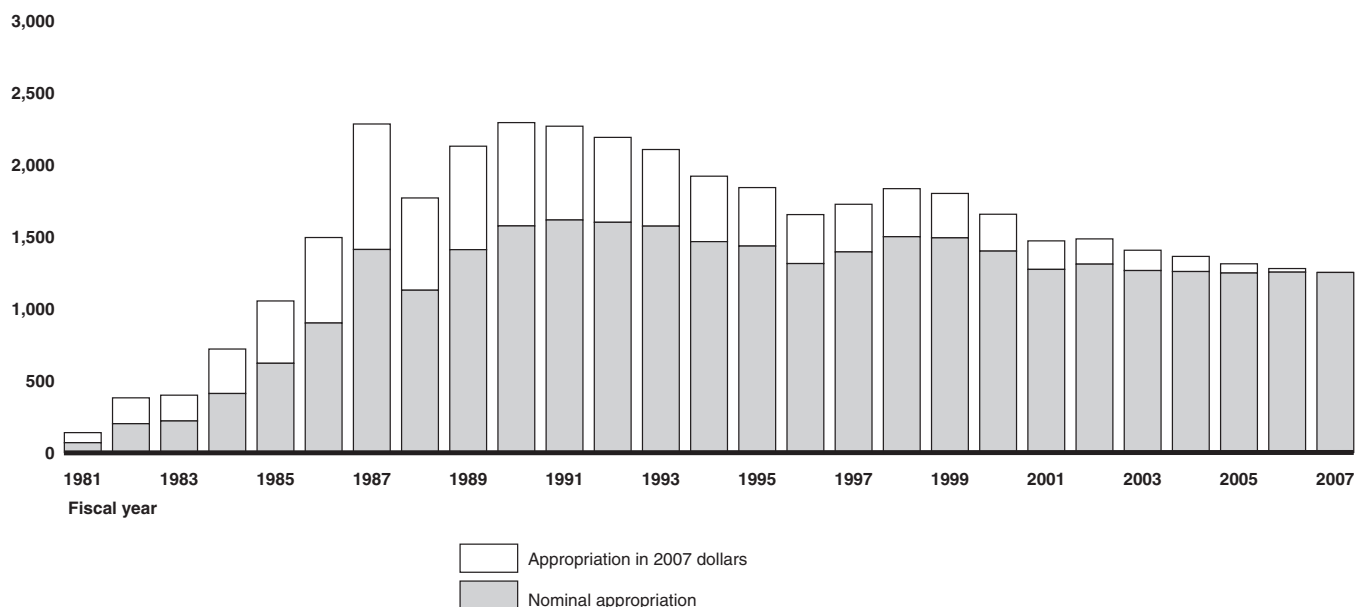
Source: GAO analysis of data from the President's Budget Appendices.

## The Congress Guides EPA's Use of Its Superfund Appropriation

Although the trust fund supports the Superfund program, EPA does not have the authority to use the fund without appropriations from the Congress. Since fiscal year 1981, the annual appropriation to EPA's Superfund program has averaged approximately \$1.2 billion in nominal dollars.<sup>9</sup> In many years, the appropriation constituted only a portion of the total dollars available in the trust fund. For example, the trust fund had a balance of \$3.8 billion at the start of fiscal year 1997, and the appropriation to EPA's Superfund program was \$1.4 billion. In recent years, however, congressional appropriations have declined when adjusted for inflation. Figure 4 shows appropriation levels in nominal and constant dollars since fiscal year 1981.

**Figure 4: EPA's Superfund Program Appropriation, Fiscal Years 1981 through 2007**

Dollars in millions



Source: GAO analysis of appropriations laws and the President's Budget Appendices.

Over time, with congressional approval, the source of funding for some activities has shifted from EPA's Superfund program appropriation to other funding sources, which affects the comparison of appropriation levels in some years. For example, historically, funds for Superfund-related activities at the Agency for Toxic Substances and Disease Registry and the National Institute of Environmental Health Sciences came from EPA's Superfund appropriation. For fiscal year 2000, these agencies—which conduct health assessments at hazardous waste sites, among other things—received \$130 million through EPA's Superfund appropriation. For fiscal year 2001, the Congress began providing these two agencies with funds for such activities through their own appropriations. Similarly, beginning in fiscal year 2003, the Congress used a separate EPA appropriation to provide funds for the Brownfields program, which supports the redevelopment of sites that are potentially contaminated. For fiscal years 1999 through 2002, congressional committees recommended that

<sup>9</sup>Our guidance recommends we present budget numbers in nominal terms to match what has actually been enacted or proposed at the time, what is reported in budget documents, or both, rather than adjusting for inflation. Therefore, throughout this section, we will present all data in nominal dollars, except where we illustrate trends over time, in which case we will also provide constant dollars.

EPA allocate more than \$90 million annually for the Brownfields program from its Superfund funding.

While the annual appropriation determines how much of the Superfund trust fund EPA can spend each year, the Congress provides direction on how EPA should use its appropriation. For example, for fiscal year 2005, the Congress directed that \$13 million be transferred to the Inspector General appropriation to fund Superfund-related audits. Additionally, \$36 million was transferred to the Science and Technology appropriation for related research efforts. Congressional committees also direct EPA to allocate money from the Superfund appropriation to other federal agencies. In many years, committee reports directed funds to the Department of Justice to support EPA's enforcement efforts; for fiscal year 2005, for example, the reports recommended that EPA allocate more than \$27 million to the department. At the recommendation of congressional committees, EPA also provides support to other agencies, including the Department of the Interior, which supports EPA's ability to prepare for hazardous waste releases; the National Oceanic and Atmospheric Administration, which provides technical support for coastal remediation projects; and the United States Coast Guard, which directly conducts some removals in coastal areas. Congressional committees recommended funding of nearly \$11 million from the Superfund appropriation for fiscal year 2005 for these and other federal agencies' activities.

Within EPA's Superfund program, the agency also receives direction from congressional committees about how to allocate its resources to different priorities. From fiscal year 1996 to fiscal year 2006, committees directed program appropriations into three broad categories—response and cleanup, enforcement, and management and support. Starting in 2006, however, the committees began providing direction using a total of 39 more narrowly defined categories. For example, instead of directing an overall amount for management and support, one of the three broader categories, congressional committees now direct funds for these activities to 11 of the narrowly defined categories.

Congressional committees provide much of this direction through reports prepared to accompany the appropriations laws. As a matter of law, instructions in committee reports and other legislative history about how funds should be spent do not impose any legal requirements on federal agencies. However, as the Supreme Court has pointed out in the past, agency decisions to ignore congressional expectations may expose them to grave political consequences.<sup>10</sup> As a matter of policy, EPA generally abides by the language in reports that accompany appropriations laws.

### **Enforcement and Administration Costs as a Percent of Superfund Expenditures Increased from Fiscal Year 1999 through Fiscal Year 2007**

For fiscal years 1999 through 2007, remedial and removal activities constituted the majority of EPA's Superfund expenditures. EPA spent most of the remaining Superfund expenditures on enforcement and administration. Enforcement activities provide monetary and other benefits to the Superfund program. Superfund program administration costs, which consist of expenditures by several agency support offices, are primarily used for facilities, operations, and security and accounted for approximately 9 percent of costs throughout the period. These activities include, for example, operating the agency's financial management system, which

<sup>10</sup>Lincoln v. Vigil, 508 U.S. 182, 193 (1993).

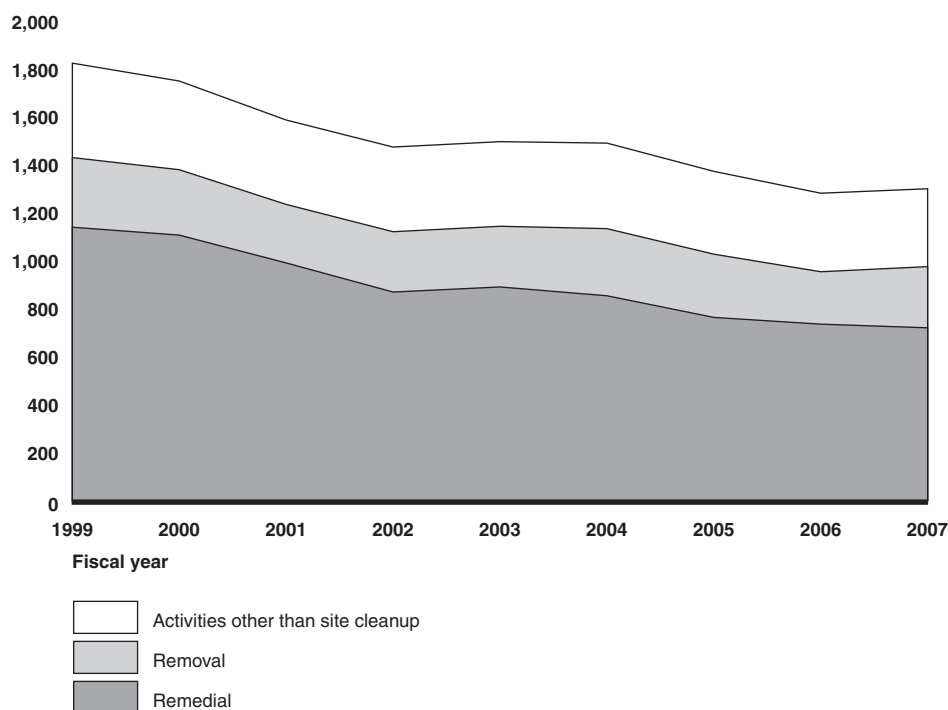
provides important benefits to the Superfund program. However, the classification of costs as administration-related has varied.

**EPA Uses the Majority of Superfund Expenditures for Remedial and Removal Activities, but Total Expenditures Declined Nearly 30 Percent**

For fiscal years 1999 through 2007, EPA used approximately 77 percent of its Superfund expenditures for site cleanup activities, namely remedial and removal actions; most of the remainder was spent for enforcement and administration-related activities.<sup>11</sup> Over the period, the overall level of Superfund expenditures fell from \$1.8 billion to \$1.3 billion, or approximately 29 percent. Expenditures on the remedial program account for the majority of this decline (see fig. 5). However, expenditures for removals and nonsite cleanup activities also declined during this period.

**Figure 5: EPA Superfund Expenditures, Fiscal Years 1999 through 2007**

Constant 2007 dollars in millions



Source: GAO analysis of EPA data.

Note: These data exclude reimbursable expenditures and other expenditures related to the Brownfields program, transfers to other EPA appropriations, and the 2002 Homeland Security Supplemental appropriation. Other Superfund expenditures related to homeland security are included in various categories. The level of expenditures in each category—but not the total—could vary based on whether certain costs are classified as administration-related.

<sup>11</sup>Due to changes in EPA's budget structure, EPA was unable to comparably categorize some expenditures. These expenditures never accounted for more than 0.2 percent of annual expenditures. Over the entire period, these other expenditures constituted 0.05 percent of Superfund expenditures.

EPA funds a variety of activities under the remedial category, including

- collecting and analyzing site data to determine the potential effects of contaminants on human health and the environment,
- conducting or overseeing investigations to select appropriate remedies,
- constructing or overseeing the construction of remedies, and
- ensuring long-term protectiveness by overseeing maintenance activities and conducting 5-year reviews of sites.

Similarly, EPA funds many activities related to removal actions, including

- assessing the threats of hazardous waste releases to determine whether removal actions are necessary;
- responding to the release of hazardous waste at sites that pose an immediate threat to public health or the environment;
- developing and maintaining the infrastructure necessary to respond effectively to releases, whether they are accidental, intentional, or a result of a natural disaster; and
- coordinating with the Department of Homeland Security and other federal agencies during natural disasters and other major environmental incidents.

Superfund Enforcement Expenditures Support a Variety of Activities That EPA Data Indicate Have Provided Almost \$30 Billion in Value to the Program

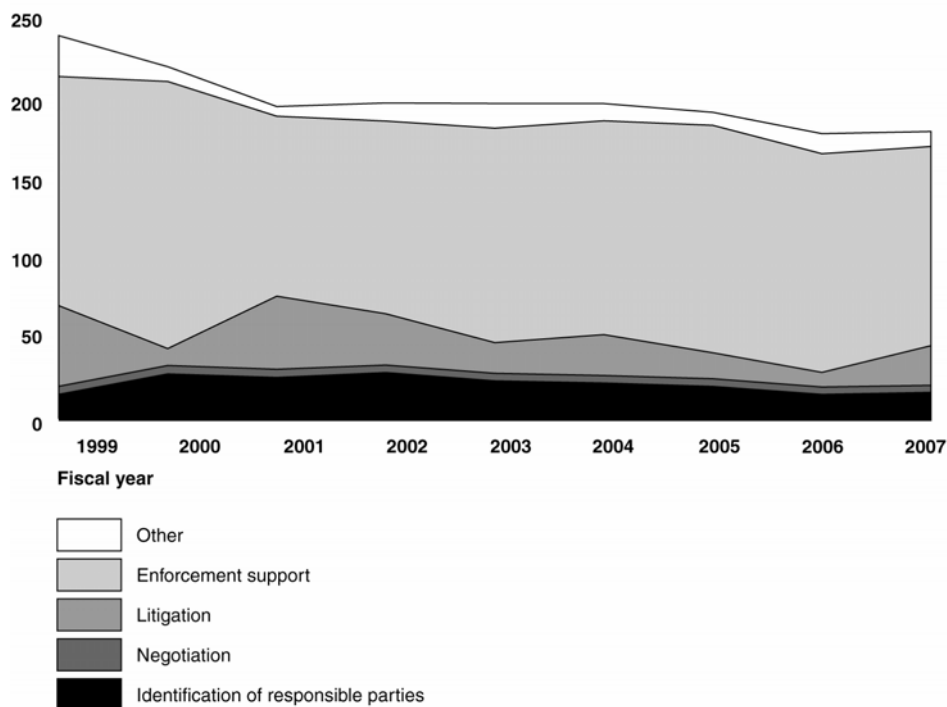
In fiscal year 2007, Superfund enforcement expenditures totaled approximately \$187 million, which represents a decrease of more than 23 percent from fiscal year 1999. However, the proportion of total program expenditures going to enforcement has remained relatively consistent, at around 14 percent, because overall program funding also decreased during this period. EPA's enforcement expenditures—which accounted for the majority of expenditures not related to site cleanup—fund four major categories of activities: (1) identifying responsible parties, (2) negotiating with these parties, (3) litigating against some parties, and (4) supporting EPA's enforcement work.<sup>12</sup> Within these categories, EPA uses action codes to identify the specific type of activity funded by each expenditure. EPA also provides funding to the Department of Justice for assistance with enforcement work. See figure 6 for an analysis of enforcement expenditures over time.

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<sup>12</sup>Based on EPA documentation and interviews, we developed the four categories used in this section and confirmed our analysis with EPA officials. However, we were unable to place 6 percent of enforcement expenditures into any of these four categories. Most of these expenditures were attributable to technology projects that were not related to specific sites. Uncategorized enforcement expenditures also included activities related to (1) the oversight of responsible parties, although EPA officials told us these responsibilities are no longer considered enforcement-related; (2) the development of EPA's cost recovery claims; and (3) specific steps that are taken as part of the cleanup process, including site assessment activities, community relations activities done to address community concerns, and technical support for remedial actions.

**Figure 6: Superfund Enforcement Expenditures, Fiscal Years 1999 through 2007**

Constant 2007 dollars in millions



Source: GAO analysis of EPA data.

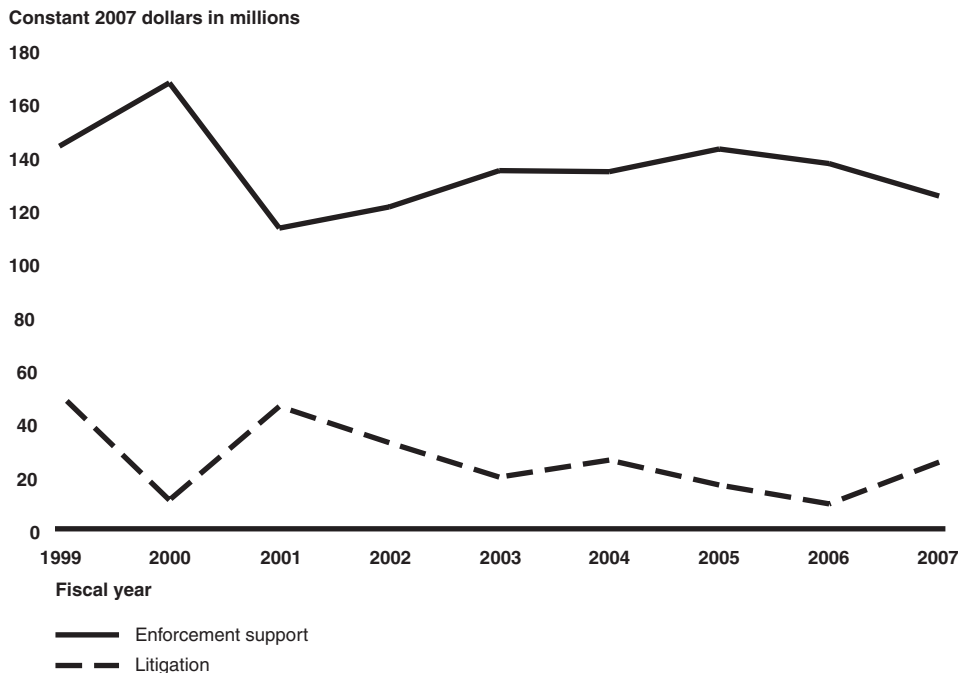
In fiscal year 1999, costs related to identifying responsible parties were \$15 million, or 6 percent of total enforcement expenditures. In fiscal year 2007, these costs increased slightly to \$16 million, representing 9 percent of enforcement expenditures. However, the costs of these activities peaked at \$29 million in fiscal year 2002, constituting nearly 15 percent of expenditures. EPA conducts the activities in this category to develop an enforcement case; specific activities include interviewing responsible parties, as well as preparing and reviewing relevant documents. Other components of this category include maintenance of enforcement and administrative records, which are necessary to the enforcement process, and laboratory analyses, which primarily supports analyses done to link a responsible party to a site contaminant.

The costs of negotiating with responsible parties were relatively stable during this period—\$5 million in fiscal year 1999 and just over \$4 million in fiscal year 2007. Moreover, negotiation costs were consistently about 2 percent of enforcement expenditures. Most expenditures in this category are classified under a generic negotiation category, though some expenditures are characterized by a specific type of negotiation.<sup>13</sup>

As figure 7 shows, expenditures related to litigation and enforcement support varied during this period.

<sup>13</sup>Some negotiation expenditures fund alternative dispute resolution, in which cost recovery actions are resolved using mediation or arbitration. Other types of activities classified as negotiation include (1) removal negotiations, which involve discussions between EPA and responsible parties over parties' liability and willingness and ability to implement a removal action; and (2) work done to prepare and issue administrative orders that can compel responsible parties to conduct cleanup actions and may also involve cost recovery.



**Figure 7: EPA Expenditures for Litigation and Enforcement Support Activities, Fiscal Years 1999 to 2007**

Source: GAO analysis of EPA data.

Litigation expenditures were just over \$50 million in fiscal year 1999 and fell to \$25 million in fiscal year 2007. However, the proportion of enforcement expenditures categorized as litigation ranged from a low of 5 percent in fiscal year 2000 to a high of 23 percent in fiscal year 2001. Litigation expenditures are largely site-specific and can vary depending on the particular site litigation activities. Moreover, a small number of sites can raise the overall level of spending on litigation. Specific litigation activities include establishing EPA's Superfund claims when a responsible party files for bankruptcy, filing a judicial action charging criminal violation of CERCLA, preparing a case for referral to the Department of Justice, and assisting the department in pursuing cases against responsible parties.<sup>14</sup>

Enforcement support activities constituted the majority of enforcement expenditures. As the figure shows, in fiscal year 1999, expenditures on enforcement support were \$143 million, which was 49 percent of enforcement expenditures; in fiscal year 2007, although expenditures fell slightly to \$125 million, these activities constituted 64 percent of enforcement expenditures. However, as with litigation expenditures, the level of spending on enforcement support activities varied during this period. According to EPA data, nearly 60 percent of all enforcement expenditures were classified using the action code "general enforcement," one of the main components of this category. These costs were \$117 million in fiscal year 1999 and \$114 million in fiscal year 2007, although they ranged from a low of \$95 million in fiscal year 2001 to a high of \$142 million in fiscal year 2000. EPA defines general enforcement activities as supporting the management and evaluation of the Superfund program. Other activities in the enforcement support category include reviewing program and technical site documents, preparing and

<sup>14</sup>Most Department of Justice activities funded by Superfund are coded as litigation expenditures in our analysis. The department provides information to EPA regarding the activities it carries out related to the Superfund program; however, due to differences in how EPA and the department code various activities, costs for some nonlitigation activities, such as the negotiation of settlements, may be included in this category.

reviewing administrative records, attending public meetings concerning a site, and maintaining enforcement databases.

Our analysis of EPA data showed that the agency's enforcement expenditures at NPL sites alone have returned benefits valued at an estimated \$29.9 billion to the Superfund program through fiscal year 2007.<sup>15</sup> EPA takes enforcement actions at other hazardous waste sites not on the NPL; however, we limited our analysis to the results of EPA's enforcement actions at proposed, final, and deleted sites. According to EPA officials, the agency's enforcement priority is for parties to accept responsibility for cleanup actions; a substantial majority (over 75 percent) of the total monetary value of enforcement activities at NPL sites represents EPA's estimated value of commitments by responsible parties to conduct work at sites.<sup>16</sup> Other monetary outcomes of EPA's Superfund enforcement activities include the recovery of costs EPA previously spent at sites, payment for future site costs, and penalties assessed to responsible parties. Table 2 shows the results of EPA's enforcement activities for fiscal years 1979 through 2007.

**Table 2: Estimated Value of Superfund Enforcement Activities at NPL Sites, Fiscal Years 1979 through 2007**

Constant 2007 dollars in millions	
Type of value	Amount
Past costs recovered	\$5,104.5
Future costs obtained	2,222.9
Estimated value of responsible party work commitments	22,525.6
Penalties assessed	50.7
<b>Total</b>	<b>\$29,903.7</b>

Source: GAO analysis of EPA data.

Note: According to EPA, past costs recovered and future costs obtained include both federal and state costs. Penalties include both statutory and stipulated penalties. We did not evaluate the accuracy of these estimates. Enforcement activity outcome values were adjusted to constant 2007 dollars based on the completion date of the activity outcome, not the date the amount was paid or the work conducted.

<sup>15</sup>This total represents EPA's estimate—as of June 2008—of the value of enforcement activities at proposed, final, and deleted Superfund sites for fiscal years 1979 through 2007. In part, this total is an estimate because the value of the responsible party work commitments reported by EPA is an estimated value—or projected cost—of the activities these parties agree to perform and does not represent the actual amount of money spent by responsible parties at sites as a result of EPA's enforcement activities. Also, the total is an incomplete estimate because these data do not include payments for future EPA oversight of work conducted by the responsible parties or interest payments from responsible parties who arrange to pay EPA over time. Furthermore, EPA may take or assist states in taking enforcement actions, the results of which are not included in the total we present in this report. For example, according to an EPA official, in some instances states take the primary lead in an enforcement action, and EPA generally plays only an advisory role in these actions. The official stated that the agency excludes the outcomes of these enforcement actions from its accomplishment reporting, and, therefore, we excluded them from our analysis. Also, the EPA official told us that Superfund enforcement outcomes reported prior to the passage of CERCLA in 1980 represent outcomes at sites that were ultimately listed on the NPL, but for which enforcement actions were initiated under the Resource Conservation and Recovery Act. The Congress passed the Act in 1976 to establish a framework for managing hazardous waste from its generation to final disposal.

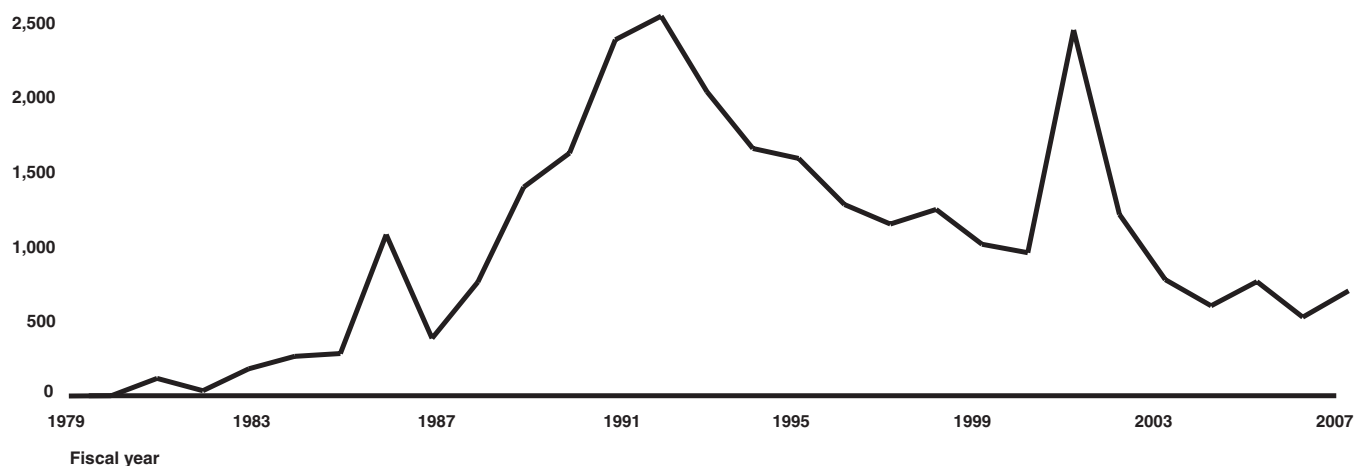
<sup>16</sup>Responsible parties are not required to provide EPA with information on the actual costs of implementing Superfund site response actions. Therefore, EPA data on the value of responsible party work commitments are taken primarily from the estimated cost of response alternatives as identified in removal documents or Records of Decision for individual Superfund sites. According to agency guidance, these estimates are expected to range from -30 percent to +50 percent of the actual project cost. We did not evaluate the extent to which cost estimates in Superfund site Records of Decision reflect the actual costs incurred by responsible parties for implementing the remedial actions.

According to OSWER and OECA officials, EPA typically takes multiple enforcement actions that result in settling responsibility with parties for the costs of work at a Superfund site. The officials said that EPA often pursues responsible parties for the costs (or work) related to investigating the site and studying the feasibility of various remedial alternatives first. EPA then pursues responsible parties for the costs (or work) related to designing and implementing the remedial action at a later date. Moreover, the officials said that EPA's enforcement actions may result in separate agreements with different parties concerning their responsibility for the costs of cleaning up a site.

For fiscal years 1999 through 2007, EPA's total enforcement expenditures have averaged about \$199.2 million each year. Over this same period, EPA's recoveries of costs previously spent by the agency at NPL sites—as well as payments by parties to fund future site costs—averaged \$302.5 million annually, with a high of \$568.5 million in fiscal year 1999 and a low of \$161.3 million in fiscal year 2006. These amounts represent (1) recoveries of money which help replenish the trust fund and (2) payments for future site costs that may allow EPA to use its appropriation for work at other sites. EPA's return on its enforcement expenditures is greater when considering the value of work commitments. Including the commitments of responsible parties and other returns on enforcement activities, such as penalties, the estimated value of all EPA enforcement outcomes at NPL sites averaged just over \$1 billion per year for fiscal years 1979 through 2007. However, as figure 8 shows, the return has varied from year to year, with a high of over \$2.6 billion in fiscal year 1992 and a low of \$0 in fiscal year 1980.

**Figure 8: Estimated Value of Enforcement Outcomes at NPL Sites, Including Commitments from Responsible Parties, Cost Recoveries, Payment for Future Site Costs, and Penalties, Fiscal Years 1979 through 2007**

Constant 2007 dollars in millions  
3,000



Source: GAO analysis of EPA data.

Note: We did not evaluate the accuracy of these estimates. Enforcement activity outcome values were adjusted to constant 2007 dollars based on the completion date of the activity outcome, not the date the amount was paid or the work conducted.

Owing to the nature of the enforcement process, enforcement expenditures in any particular year do not necessarily relate to enforcement outcomes in that year because some enforcement actions take years to resolve. For example, in March 2008, EPA and the Department of Justice reached a \$250 million settlement with a responsible party at one Superfund site that included

reimbursement of federal costs for investigation and cleanup of the site, as well as future cleanup costs. Although this enforcement outcome will be recorded in fiscal year 2008, it was the result of actions over a number of years; the Department of Justice initially filed suit against the responsible party in March 2001.

Total estimated enforcement values at individual sites with at least one monetary outcome ranged from a low of \$2 at one site to a high of over \$1 billion at another, with an average of almost \$26 million per site. Table 3 provides a more detailed analysis of the total estimated enforcement values achieved at sites for fiscal years 1979 through 2007.

**Table 3: Estimated Value of Superfund Enforcement Activities at NPL Sites for Fiscal Years 1979 through 2007**

Constant 2007 dollars in millions		
Estimated value of enforcement activities at sites	Number of sites (percent of total)	Total enforcement value (percent of total)
Less than \$100,000	28 (2.5%)	\$0.9 (0.0%)
\$100,000 to \$999,999	159 (13.9)	72.8 (0.2)
\$1,000,000 to \$9,999,999	431 (37.8)	1,971.3 (6.6)
\$10,000,000 to \$99,999,999	472 (41.4)	15,151.6 (50.7)
\$100,000,000 and over	51 (4.5)	12,707.1 (42.5)
<b>Total</b>	<b>1,141 (100%)</b>	<b>\$29,903.7 (100%)</b>

Source: GAO analysis of EPA data.

Note: We did not evaluate the accuracy of these estimates. Enforcement activity outcome values were adjusted to constant 2007 dollars based on the completion date of the activity outcome, not the date the amount was paid or the work conducted. Percents may not to 100 add due to rounding.

While the vast majority of sites for which EPA provided enforcement outcome data (1,141 out of 1,160) had at least one monetary outcome, EPA took enforcement actions at 243 NPL sites that did not result in a monetary outcome. Nevertheless, nonfinancial outcomes are important for the Superfund program. For example, in some cases EPA has to undertake an enforcement action in order to gain access to a site (or to gain access for responsible parties conducting work at sites). In such instances, EPA's enforcement activities play an important role in allowing the cleanup to continue.

#### Facilities, Operations, and Security Expenditures Constitute Half of All Administration Costs, but the Classification of These Costs Varies

According to EPA data, from fiscal year 1999 through fiscal year 2007, administration expenditures decreased by 7 percent, from \$143 million to approximately \$132 million. The agency used half of these expenditures to pay for rent, utilities, security, and related expenses that are attributed to the Superfund program, including expenditures at EPA's headquarters and regional offices. However, because overall Superfund expenditures decreased at a greater rate during this period, EPA's administration costs constituted a greater share of total Superfund expenditures by fiscal year 2007—from 8 percent to more than 10 percent. EPA officials pointed out that many costs related to administration, such as rent, are somewhat fixed and not necessarily related to changes in the level of expenditures on cleanup activities in the short term. Therefore, these administration costs may not change as quickly as other expenditures.

Although we did not collect detailed data for this entire period, table 4 provides additional information on the types of expenses and activities funded by EPA's administration expenditures during fiscal year 2007.

**Table 4: EPA Superfund Expenditures for Administration Activities in Fiscal Year 2007**

Dollars in millions	
<b>Program/selected activities</b>	<b>Expenditure</b>
<b>Facilities, operations, and security</b> —paying for rent, utilities, and security; ensuring property management; providing mail and transportation services; and supplying occupational health benefits	\$65.41
<b>Planning, budgeting, and finance</b> —managing the budget process, including formation and execution; and billing responsible parties for EPA oversight work	21.03
<b>Acquisition management</b> —managing contracts; and fostering relationships with state and local governments	18.52
<b>Information technology infrastructure and data management</b> —providing agency information technology infrastructure; supporting the collection, management, and analysis of EPA data; protecting confidentiality, availability, and integrity of EPA data; and ensuring the security of classified information	16.53
<b>Human resources management</b> —providing training; managing workforce and succession planning; and participating in interagency councils and improvement initiatives	5.19
<b>Grants and interagency agreement management</b> —ensuring grants produce measurable environmental results; and meeting fiduciary standards for grants and interagency agreements	2.69
<b>Alternative dispute resolution &amp; legal advice</b> —supporting the use of alternative dispute resolution in negotiations with responsible parties; and providing legal advice during negotiations with responsible parties and other entities	1.40
<b>Information exchange</b> —maintaining intergovernmental network of environmental data; and issuing monthly enforcement alerts	1.37

Source: GAO analysis of EPA data.

EPA officials told us that the administration expenditures in table 4 represent the activities of the agency's support offices. These four offices and their primary responsibilities include the following:

- *Office of Administration and Resources Management*—human resource management, facilities management, and contracts and grants management.
- *Office of the Chief Financial Officer*—annual budget process, performance management, strategic planning, and financial payment and support services.
- *Office of Environmental Information*—collection and management of agency environmental data, including ensuring the accuracy and reliability of such data and developing tools to access and analyze these data.
- *Office of General Counsel*—legal support for agency rules, policies, and litigation undertaken with Department of Justice attorneys.

In addition to providing funding for the offices and lab spaces where EPA conducts work, EPA's administration support activities provide a variety of benefits to the Superfund program. For example, the Superfund program relies upon the contract management activities of the Office of Administration and Resources Management, because contractors conduct many Superfund activities, including searching for responsible parties and cleaning up hazardous waste sites. Attorneys in EPA's Office of General Counsel provide legal advice and counsel program staff on federal laws, as well as executive orders, regulations, policies, guidelines, case decisions, state laws, and local ordinances that may affect the program or specific hazardous waste sites. Additionally, the Office of the Chief Financial Officer operates the agency's financial management system, which processes and documents Superfund program expenditures. The accuracy of this documentation is crucial for Superfund cost recovery claims; according to EPA data, this work allowed the agency to recover costs of over \$190 million in fiscal year 2007.

In the past, we, EPA, the agency's Inspector General, and others have published different amounts of spending on administration activities for fiscal years 1999 through 2003. For example, in 2003, we reported that EPA used 22 percent of its Superfund expenditures, or \$334 million, in fiscal year 2002 for "management and administration," which included nonsite-specific costs, such as program management and budgeting, policy development and implementation, emergency preparedness activity, contract and information management, training, and general support.<sup>17</sup> Table 5 presents the data EPA provided to us for administration costs and the amounts reported previously.

**Table 5: Comparison of Published Data on EPA Administration Expenditures**

Constant 2007 dollars in millions					
Fiscal year	GAO, 2008 (percent of total Superfund expenditures)	EPA Inspector General, 2006 <sup>a</sup> (percent of total Superfund expenditures)	National Advisory Council for Environmental Policy and Technology, 2004 <sup>b</sup> (percent of total Superfund expenditures)	GAO, 2003 <sup>c</sup> (percent of total Superfund expenditures)	Resources for the Future, 2001 <sup>d</sup> (percent of total Superfund expenditures)
1999	\$143 (8%)	\$438 (23%)	\$417 (25%)		\$652 (35%)
2000	132 (8)	439 (23)			
2001	138 (9)	436 (25)			
2002	135 (9)	441 (26)		\$334 (22%)	
2003	135 (9)	492 (28)	497 (35)		

Sources: GAO analysis of EPA, National Advisory Council for Environmental Policy and Technology, and Resources for the Future data.

Notes: We provided the data that were available in each report. Although the National Advisory Council for Environmental Policy and Technology report showed a figure for the years between fiscal year 1999 and fiscal year 2003, the report only provided exact amounts, which are necessary to make comparisons, for the beginning and end of the period.

<sup>a</sup>EPA, Office of Inspector General, *EPA Can Better Manage Superfund Resources*, 2006-P-00013 (Washington, D.C.: Feb. 28, 2006).

<sup>b</sup>National Advisory Council for Environmental Policy and Technology, *Final Report*, (Washington, D.C.: Apr. 12, 2004).

<sup>c</sup>GAO-03-850.

<sup>d</sup>Resources for the Future, *Superfund's Future: What Will it Cost?*, (Washington, D.C.: 2001).

<sup>17</sup>GAO-03-850.



These reports used varying methodologies to obtain and analyze EPA's expenditure data.

- For this report, EPA provided us with data in four broad categories: remedial, removal, enforcement, and administration. As mentioned, to illustrate administration expenditures, EPA officials included all Superfund-related costs of the agency's support offices. Officials also explained that their goal in categorizing administration expenditures was to be consistent with how funds were appropriated to EPA.
- In the Inspector General's 2006 report, officials obtained data from EPA and used the agency's official definition of administrative and programmatic costs to categorize these data.<sup>18</sup>
- The National Advisory Council for Environmental Policy and Technology's information comes directly from EPA data provided to the council, which identified programmatic and administrative funds.
- In our 2003 report, we also relied on EPA to determine what activities it considered to be administrative.
- Resources for the Future conducted its own analyses of EPA expenditure data to identify expenditures related to program support and administration. Unlike the other publications, this report used its own definition of administration costs.

Underlying the differences in the data presented in these reports, one of the more important differences was variation in the categorization of agency payroll costs. The only payroll costs that were categorized as administration in this study were those associated with the agency's support offices. In general, EPA categorized payroll costs according to the activities with which these costs were associated. For example, EPA categorized all OECA payroll costs as enforcement-related expenditures. In contrast, some previous reports included all Superfund program payroll costs in the administration category. Several reports cited concerns with this approach, however. In the Inspector General's report, for example, OSWER officials disputed the agency's official definition of administration costs (which includes all payroll costs), maintaining that some payroll costs should be categorized as programmatic, such as when staff are performing site-specific cleanup activities. The National Advisory Council for Environmental Policy and Technology also noted that, by including all payroll costs in the definition of administration costs, most enforcement costs were categorized as administrative. Other reports, such as our 2003 report and the Resources for the Future report, included some payroll costs in the administration category and others in programmatic categories. EPA officials told us that different definitions of administration costs may be necessary for different analyses, such as developing EPA's budget or calculating indirect costs, which—along with site-specific costs—can be recovered from responsible parties.

By removing all OSWER and OECA payroll costs from the administration category, EPA may have addressed the concerns raised by OSWER and the National Advisory Council for Environmental Policy and Technology. However, the new data may understate administration

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<sup>18</sup>This definition is provided in EPA's *Administrative Control of Appropriated Funds*, which outlines the principles and policies to control the use of its funds.



expenditures because they do not include OSWER and OECA payroll costs that are administrative in nature. Program management and administration activities are carried out in each headquarters office as well as each region. For example, Resources for the Future identified several categories of activities that OSWER and OECA conduct that the report included as administration costs: (1) planning, budgeting, and other analyses carried out by OSWER officials; (2) enforcement planning activities and public outreach and communication efforts conducted by OECA officials; and (3) laboratory analyses supporting enforcement investigations undertaken by the National Enforcement Investigations Center.

In addition to differences in the definition of administration costs, the level of these costs may be misstated—EPA’s Inspector General and the agency itself identified concerns with Superfund administration costs. The Inspector General found that EPA had not included all agency funds that subsidize Superfund activities in its accounting system. Each year, the Superfund program—and other programs across the agency—receive support from the Environmental Programs and Management appropriation for a wide range of EPA costs, including those that cannot be attributed to a specific program.<sup>19</sup> These costs support, among other things, personnel compensation and benefits, travel, procurement, and contract activities. EPA financial statements for fiscal years 1998 through 2006—the years for which data are available—show that the Superfund program received, on average, \$74 million in services funded by the Environmental Programs and Management appropriation.<sup>20</sup>

EPA and the Inspector General also noted that the allocation of support costs to agency programs is based on outdated workforce plans. According to EPA, the agency’s workforce model has not been updated since the early 1990s, despite many significant changes to the Superfund program in the intervening years, including increased homeland security duties and evolving responsibilities as NPL sites progress through the cleanup process. Because EPA allocates some support costs on the basis of the number of staff working in a program area, an outdated workforce plan could have implications for the level of support costs charged to the Superfund program. EPA’s Inspector General found that 9 of 10 regions redirect some portion of their Superfund personnel to other regional activities, such as community involvement, public affairs, or the Regional Administrator’s office.<sup>21</sup>

EPA and its Inspector General made several recommendations regarding the classification of EPA’s administration costs and other related issues. Some of these recommendations, along with EPA’s response, are provided in table 6.

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<sup>19</sup>The Environmental Programs and Management appropriation is one of EPA’s largest appropriations, funding the work of more than 10,000 agency staff.

<sup>20</sup>In some years, the Superfund program received services funded by additional EPA appropriations, which are also included in this figure.

<sup>21</sup>Inspector General officials did not verify whether these activities were related to Superfund.

**Table 6: Selected Recommendations on Administration Costs and EPA's Response**

<b>Report and recommendations</b>	<b>EPA's response<sup>a</sup></b>
<b>EPA, <i>Superfund: Building on the Past, Looking to the Future</i> (2004)</b>	
Collect data each year on the amount of funds spent on cleanup or on those activities that are necessary to get to the cleanup phase and communicate those costs more effectively.	EPA planned no additional action to address this recommendation because this is an ongoing effort and the information would be reported out on a regular basis.
Identify ways to simplify the internal budget structure to reduce the costs of moving money around the agency.	EPA took no action on this recommendation because it did not believe the current budget structure constrained the efficient use of resources.
Evaluate the number of staff doing Superfund work at headquarters and make every effort to redirect resources to activities that more directly contribute to site cleanup.	EPA indicated that its workforce analysis would guide future allocation of resources.
Consider transferring some or all of Superfund management and support costs to the Environmental Programs and Management appropriation. <sup>b</sup>	EPA took no action because it determined the option was not feasible.
<b>EPA Inspector General, <i>EPA Can Better Manage Superfund Resources</i> (2006)</b>	
Define costs in a manner that supports management decision making.	EPA is reviewing the applicability of its current definition of administration costs and may explore alternative approaches.
Conduct a workforce assessment or develop a workload model.	EPA is conducting a workforce assessment. The current milestone date for completion of this project is July 30, 2008.
Declare the accounting for administration and support activities and the lack of a current workload model as internal control weaknesses.	Office of Inspector General officials told us they closed this recommendation because EPA planned to address other recommendations.

Source: EPA.

<sup>a</sup>EPA responses to these recommendations were provided in EPA, *The 120-Day Study: Action Plan*, (Washington, D.C.: February 2005) and EPA Office of Inspector General, *Congressionally Requested Report on Office of Inspector General Unimplemented Recommendations (Revised)*, 08-P-0123 (Washington, D.C.: Mar. 31, 2008), as well as our interviews with Inspector General officials.

<sup>b</sup>This suggestion was listed as an option for EPA, rather than a recommendation.

## Agency Comments and Our Evaluation

We provided EPA with a draft of this report for its review and comment. The full text of EPA's comments is included in enclosure II. The agency stated that it generally agreed with the report's descriptions of funding sources that support the Superfund trust fund, and that the report provided a sound historical representation of trust fund balances and revenue, as well as an accurate description of the programs it supports. EPA also provided suggestions on three specific sections of our report; our evaluation of their comments is described below.

EPA requested that we clarify our description of the relationship between the balance of the trust fund and the funding available to the agency. Although we believe that we accurately portrayed this relationship—including specifically pointing out that EPA can only spend what has been appropriated by the Congress—we revised our report to more clearly reflect the nature of the relationship between the trust fund and annual appropriations.

The agency also commented that our description of expenditures, while factually accurate, was unclear due to our use of both nominal and constant dollars, and the fact that we presented an analysis of enforcement and administration expenditures in the same section of the report. With regard to our use of nominal and constant dollars, we noted in the report that we present all dollars in constant 2007 dollars, except when we refer to dollars in appropriations documents; for those dollar figures, we use nominal dollars, in accordance with our policy to report the amounts that were enacted at the time, presented in budget documents, or both. Regarding our presentation of EPA expenditures, we provided information on all EPA Superfund expenditures as well as detailed descriptions of enforcement and administration expenditures at the request of the Congress. Although we provided data on enforcement and administration in the same section, the focus of the section was not a comparison between these two categories, but rather a comprehensive description of each.

Finally, EPA stated that the agency's definition of administration costs was developed at the request of and was approved by the Congress. We acknowledge in the report that EPA has an official definition of administration costs. However, EPA has not consistently used this definition and officials told us they are evaluating whether to revise the agency's official definition. Furthermore, we and others identified additional issues potentially impacting the accuracy and consistency of analyses of EPA's administration costs. As a result of these issues, published data on administration costs are often not comparable. As EPA points out, different studies may have different perspectives on the kinds of costs that should be considered administration-related. Nevertheless, we believed that it was important to explain why the numbers presented in this report vary from those presented in other recent reports.

EPA also provided technical comments, which we have incorporated into this report as appropriate.

We also provided the Department of Justice with a draft of this report for review and comment; they did not comment on the draft report but provided one technical clarification, which we incorporated into the report.

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As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the Administrator of the EPA, the Attorney General of the United States, appropriate congressional committees, and other interested parties. We will also make copies available to others on request. In addition, the report will be available at no charge on our Web site at <http://www.gao.gov>.

If you or your staffs have any questions about this report, please contact John B. Stephenson at (202) 512-3841 or [stephensonj@gao.gov](mailto:stephensonj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in enclosure III.

A handwritten signature in black ink, reading "John B. Stephenson". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

John B. Stephenson  
Director, Natural Resources  
and Environment

Enclosures

*List of Requesters*

The Honorable James M. Inhofe  
Ranking Member  
Committee on Environment and Public Works  
United States Senate

The Honorable Chuck Hagel  
United States Senate

The Honorable John Thune  
United States Senate

The Honorable John Campbell  
House of Representatives

The Honorable Charles W. Dent  
House of Representatives

The Honorable Mark Steven Kirk  
House of Representatives

## **EXHIBIT 4**

GAO

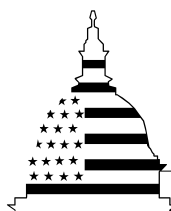
Report to the Chairman, Subcommittee  
on Oversight of Government  
Management, the Federal Workforce, and  
the District of Columbia, Committee on  
Governmental Affairs, U.S. Senate

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July 2003

# SUPERFUND PROGRAM

## Current Status and Future Fiscal Challenges



G A O

Accountability ★ Integrity ★ Reliability

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July 2003



Highlights of [GAO-03-850](#), a report to the Chairman, Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia, Committee on Governmental Affairs, U.S. Senate

## Why GAO Did This Study

Congress established the Superfund program in 1980 to clean up highly contaminated hazardous waste sites. Among other things, the law established a trust fund to help the Environmental Protection Agency (EPA) pay for cleanups and related program activities. The trust fund was financed primarily by three dedicated taxes until 1995, when the taxing authority expired. EPA continues to discover sites eligible for cleanup under the Superfund program.

GAO was asked to examine the current status of the Superfund program, the factors guiding EPA's selection of sites to be placed on its National Priorities List, and the program's future outlook.

## What GAO Recommends

In considering changes to the program to address future challenges associated with the Superfund program's fiscal uncertainty, GAO recommends that the Administrator, EPA, develop indicators that can be used to measure program performance.

EPA generally agreed with this report's findings and recommendation but provided a number of comments, which we incorporated in this report as appropriate.

[www.gao.gov/cgi-bin/getrpt?GAO-03-850](http://www.gao.gov/cgi-bin/getrpt?GAO-03-850).

To view the full product, including the scope and methodology, click on the link above. For more information, contact John B. Stephenson at (202) 512-3841 or [stephensonj@gao.gov](mailto:stephensonj@gao.gov).

# SUPERFUND PROGRAM

## Current Status and Future Fiscal Challenges

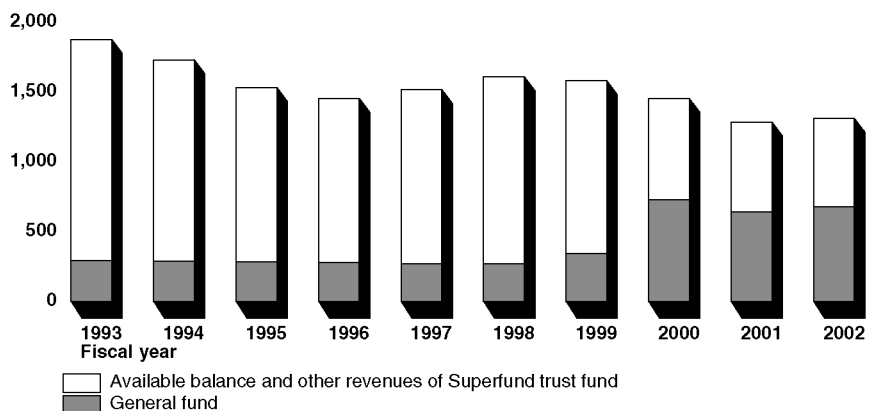
### What GAO Found

The balance of the Superfund trust fund available for future appropriations has decreased significantly since 1996, while highly contaminated hazardous waste sites continue to be added to the National Priorities List (NPL), EPA's list of the nation's most contaminated sites. A decline in revenues to the trust fund has led the Superfund program to rely increasingly on appropriations from the general fund. In EPA's fiscal year 2004 budget request for the Superfund program, the general fund appropriation would make up about 80 percent of the program's total appropriation.

At the end of fiscal year 2002, the NPL had 1,233 sites in various stages of cleanup. EPA considers many factors in selecting from the sites that are eligible to be listed, the most prominent of which are the availability of alternative federal or state programs that could be used to clean up the site, the status of responsible parties associated with the sites, and the cost and complexity of the cleanup required.

As the Superfund program continues to add sites to the NPL and funding sources shift toward general fund appropriations, the effect of EPA's actions to address future program challenges remains uncertain. Because Superfund lacks indicators to fully measure the outcomes of the program's cleanup efforts, EPA has asked an advisory council to develop criteria by which to measure the program's progress. However, it is unclear whether the advisory council will reach consensus on its recommendations, and its findings are not expected until December 2003, at the earliest. Performance indicators could help EPA and the Congress make the difficult funding, policy, and program decisions that the current budget environment demands.

**Total Appropriations to the Superfund Program, Fiscal Years 1993 through 2002**  
Constant 2002 dollars in millions



Source: The President's Budget Appendix, fiscal years 1995 through 2004.

Note: These appropriations do not include spending authority for offsetting collections.

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**Contents**

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**Abbreviations**

ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
EPA	Environmental Protection Agency
FTE	Full time equivalent
NIEHS	National Institute for Environmental Health Science
NPL	National Priorities List
ORD	Office of Research and Development
OSWER	Office of Solid Waste and Emergency Response
RCRA	Resource Conservation and Recovery Act

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United States General Accounting Office  
Washington, D.C. 20548

July 31, 2003

The Honorable George V. Voinovich  
Chairman  
Subcommittee on Oversight of Government Management,  
the Federal Workforce, and the District of Columbia  
Committee on Governmental Affairs  
United States Senate

Dear Mr. Chairman:

The Environmental Protection Agency (EPA) estimates that one in four Americans lives within 4 miles of a hazardous waste site. Congress established the Superfund program in 1980 to address the threats that these sites pose to human health and the environment. Among the hazardous waste sites that the Superfund program addresses are manufacturing facilities where hazardous waste has been spilled or disposed of on site, waste disposal facilities where soil or groundwater has been contaminated, or sites where toxic materials have been disposed of improperly and abandoned. EPA, which administers the Superfund program, has identified 44,000 potentially hazardous waste sites and continues to discover about 500 additional sites each year. EPA places the nation's most seriously contaminated sites, which typically are expensive and can take many years to cleanup, on its National Priorities List (NPL). At the end of fiscal year 2002, there were 1,233 sites on the NPL.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 established the Superfund program to clean up highly contaminated hazardous waste sites. CERCLA authorizes EPA to compel the parties responsible for the contamination to clean up the sites; allows EPA to pay for cleanups, then seek reimbursement from the responsible parties; and establishes a trust fund to help EPA pay for cleanups and related program activities. The law also authorizes states to participate in the cleanup process, provides for public participation in the cleanup decisions, and provides that responsible parties are liable for damage to injured natural resources. In addition, the law establishes a process for cleaning up hazardous waste at federal facilities, although the Superfund trust fund is generally not available to fund these federal cleanups, which are funded from federal agency appropriations.

States and responsible parties play a significant role in the cleanup of hazardous waste sites. Most states have established their own programs to

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clean up hazardous waste sites independently of the federal Superfund program. However many of these state programs have limited capacity to address costly and complex sites that do not have responsible parties to pay for the cleanup. Within the Superfund program, states may enter into agreements with EPA to perform certain program actions, such as initial site assessments; EPA also consults with states on cleanup decisions throughout the cleanup process. Parties responsible for the contamination, such as current or former owners or operators of a site or the generators and transporters of the hazardous substances, often pay for and sometimes even perform the cleanup under agreements with EPA or the state. In some cases, parties responsible for the contamination cannot be identified or do not have sufficient resources to perform the cleanup.

To fund the Superfund program, CERCLA established a trust fund that can be used to conduct removal and remedial actions, to administer and manage the program, and to identify and oversee responsible parties. Until 1995, the trust fund was financed primarily by a tax on crude oil and certain chemicals and an environmental tax on corporations. The authority for these taxes expired in December 1995 and has not been reauthorized; however, the trust fund continues to receive revenue from interest accrued on the unexpended invested balance, recoveries of cleanup costs from responsible parties, and collections of fines and penalties. The trust fund has also received revenue from annual general fund appropriations that, along with its other revenues, have been used to fund the Superfund program's operations. As the general fund appropriations grow, the debate continues on whether to reinstate the taxes to support the Superfund program.

As agreed with your office, we examined (1) the current status of the Superfund program, (2) the factors guiding EPA's selection of sites to be placed on the NPL, and (3) the program's future outlook. To address these objectives, we discussed the Superfund program with officials in EPA headquarters, the 10 EPA regions, 10 states, associations that represent states, industry groups, and environmental groups.<sup>1</sup> To assess the program's status, we reviewed the status of the 1,560 hazardous waste sites that have been proposed and/or listed on the NPL since the beginning of the

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<sup>1</sup>We interviewed officials of the five states that have had the most sites proposed to the NPL in the last 5 years (California, Florida, New Jersey, New York, and Texas) and of the five states that have not had any sites proposed in the past 10 years (Arizona, Delaware, North Dakota, Nevada, and Wyoming).

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program, program funding and expenditure data, and EPA's use of human capital resources to administer the Superfund program. In this report, we present all program funding and expenditure data in constant 2002 dollars. In our review of cleanup actions, we focused on remedial actions, which are generally costly and can take a long time to complete. To assess the NPL listing process, we evaluated EPA's minimum eligibility criteria, policies, guidance, and recent practices; we also assessed the extent of EPA's coordination with states. We analyzed available data on state hazardous waste cleanup programs, focusing on the coordination between federal and state programs to address current and future Superfund sites. To assess the program's future fiscal outlook, we examined the effect of the expiration of the taxing authority for the trust fund, identified and reviewed estimates of future funding requirements and workload projections, and examined EPA's current efforts to address future program needs. We did not examine future challenges associated with benefits, health risks, or cleanup standards. Appendix I provides detailed information on our scope and methodology.

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## Results in Brief

The balance of the Superfund trust fund available for future appropriations has decreased significantly since 1996, while additional hazardous waste sites continue to be placed on the NPL. The Superfund trust fund revenues from taxes, cost recoveries, interest, fines, and penalties have decreased from more than \$2 billion in fiscal year 1995, the year the taxing authority expired, to less than \$370 million in fiscal year 2002 when presented in constant 2002 dollars. The decline in these revenues has led the Superfund program to rely increasingly on appropriations from the general fund to supplement its trust fund, with general fund supplements growing overall—in constant 2002 dollars—from \$283 million in fiscal year 1995 to \$676 million in fiscal year 2002. While the program's funding sources have changed, annual program expenditures, in constant 2002 dollars, have remained between \$1.3 and \$1.7 billion. As the balance of the trust fund available for future appropriations declines, EPA continues to place hazardous waste sites on the NPL. EPA added 283 sites to the NPL from fiscal years 1993 through 2002; the NPL contained 1,233 sites by the end of fiscal year 2002. Of these 1,233 NPL sites, 21 percent were in the study and design stage, 31 percent had construction activities under way, and 47 percent had completed the construction of any required cleanup facility at the site. After construction of the facility is completed, a site can remain on the NPL for many years while the actual cleanup takes place.

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EPA uses its Hazard Ranking System, a numerical scoring system that assesses the hazards a site poses to human health and the environment, as the principal mechanism for determining which sites are eligible for placement on the NPL. After a site's eligibility is established, EPA regions then consider many other factors in selecting the sites to submit to EPA headquarters for proposal to the NPL. The most prominent of these factors are the availability of alternative federal or state programs that could be used to clean up the site, the status of responsible parties associated with the sites, and the cost and complexity of the cleanup. State cleanup programs serve as an alternative to the Superfund program and are the approach preferred by most of the state officials that we interviewed, many of whom believed state cleanups are faster. However, because of resource limitations, state cleanup programs generally present a viable alternative only when a party responsible for the contamination can be identified and is ready, willing, and able to fund and perform the cleanup.

The Superfund program's need for federal cleanup funds to address sites that lack alternative sources of cleanup funds may grow in the future, while the program's funding from sources other than general fund appropriations dwindles. A 2001 study by an environmental research group estimated that the cost of implementing the program under then-current law would average \$1.5 billion annually through fiscal year 2009. The number of sites whose cleanup cannot be funded by responsible parties or states could increase because an increase in bankruptcies would lead to more sites without viable responsible parties, and states face budget problems that will curtail their already limited ability to pay for cleanups at sites that lack viable responsible parties. Without responsible parties to fund remediation costs at hazardous waste sites and with states' capacity curtailed, federal funding would likely be sought to perform any cleanup that EPA may propose to do. However, according to EPA, the balance of the Superfund trust fund available for future appropriations will be depleted at the end of fiscal year 2003. EPA has recently asked the National Advisory Council for Environmental Policy and Technology for guidance on several issues affecting the Superfund program's future. For example, because Superfund lacks indicators to fully measure the outcomes of the program's cleanup efforts, EPA has asked the advisory council to develop criteria by which to measure the program's progress. However, it is unclear whether the advisory council will reach consensus on its recommendations, and its findings are not expected until December 2003, at the earliest. In light of the uncertainty about whether the advisory council will develop outcome measures for EPA's consideration, this report makes a recommendation that EPA develop indicators that can be used to measure program



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performance so that changes to the program to address future challenges associated with the Superfund program's fiscal uncertainty can be more fully considered.

We provided EPA with a draft of this report for review and comment. While EPA generally agreed with this report's findings and recommendation, it provided a number of comments and clarifications, which we have incorporated into this report as appropriate. EPA pointed out that it is actively working on indicators to fully measure program performance concurrent with the National Advisory Council for Environmental Policy and Technology process. We acknowledge that EPA is actively working in this area concurrent with the advisory council process, and we have revised this report to include the agency's recent implementation of two new environmental indicators.

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## Background

The Superfund cleanup process begins with site discovery or notification to EPA of possible releases of hazardous substances posing a threat to human health or the environment. Sites are discovered by various parties, including citizens, state agencies, and EPA regional offices. Once discovered, sites are entered into the Comprehensive Environmental Response, Compensation, and Liability Information System, EPA's computerized inventory of potential hazardous substance release sites. EPA then evaluates the potential for a release of hazardous substances from the site to determine and implement the appropriate response to the threats posed by the releases of hazardous substances.

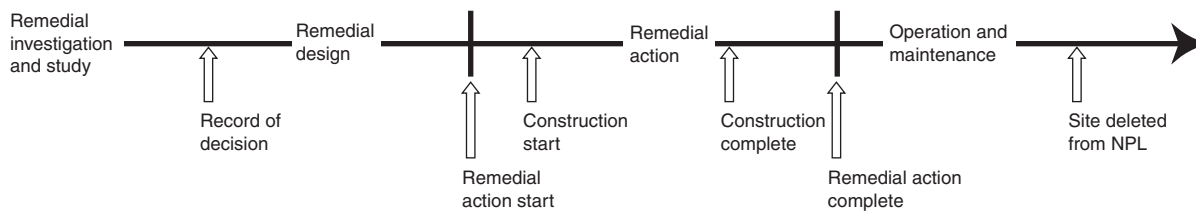
The Superfund program addresses two basic types of cleanups: (1) remedial actions—generally long-term cleanup actions at NPL sites—and (2) removal actions—generally cleanups needed to mitigate more immediate threats at both NPL and non-NPL sites. Remedial actions are generally designed to provide a permanent remedy and thus can take a considerable amount of time and money, depending on the nature of the contamination. EPA's regulations provide that a site must be on the NPL to receive Superfund trust fund financing for the remedial action. Cleanups at NPL sites progress through several steps: investigation and study, remedy selection and design, and the remedial action. Often the construction of cleanup remedies also requires subsequent operation and maintenance activities to ensure that the remedy continues to protect human health and the environment. In addition, the Superfund program conducts removal actions, which are usually short-term cleanups for sites that pose immediate threats to human health or the environment. Examples of

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removal actions include excavating contaminated soil, erecting a security fence, stabilizing a dike or impoundment, or taking abandoned drums to a proper disposal facility to prevent the release of hazardous substances into the environment. Typically, removals are limited to a 1-year effort and \$2 million in expenditures. While EPA expended an average of about \$220 million on removal actions in each of the past 10 fiscal years—in constant 2002 dollars—it generally spent at least twice this amount on remedial actions, which constitute the largest portion of annual Superfund program expenditures.

The NPL is EPA's list of the nation's most contaminated sites. EPA regions use a ranking system to assess the potential of sites to pose a threat to human health or the environment, then choose from the sites that qualify for the NPL which sites to submit to EPA headquarters for proposal to the NPL. Once approved by the EPA Assistant Administrator for Solid Waste and Emergency Response, the sites are proposed for listing in the *Federal Register*. After a comment period, most proposed sites are finalized on the NPL. A majority of sites on the NPL at the end of fiscal year 2002 were manufacturing or waste management sites, while other types of sites listed included recycling, mining, and contaminated sediment sites.

The first stages of the remedial process are the remedial investigation and feasibility study phases, during which the site is investigated further and remedial options are studied. The culmination of these initial phases is a record of decision, which identifies EPA's selected remedy for addressing the site's contamination. The selected remedy is then designed in the remedial design phase and implemented in the remedial action phase, when actual cleanup of the site begins. When physical construction of all cleanup actions is complete, all immediate threats have been addressed, and all long-term threats are under control, a site is generally deemed to be "construction complete." Most sites then enter into the operation and maintenance phase, when the responsible party or the state ensures that the remedy continues to be protective of human health and the environment. Eventually, when EPA and the state determine that no further remedial activities at the site are appropriate, EPA deletes the site from the NPL.

**Figure 1: Stages of the Remedial Process at NPL Sites**

Source: GAO analysis based upon EPA data.

The Superfund program has over 3,000 full time equivalent staff (FTE). In fiscal year 2002, EPA used about 2,500 FTEs for program staff in its regional offices, and used the remaining 644 FTEs in its headquarters. The headquarters' FTEs are spread across numerous offices, the majority in the Office of Solid Waste and Emergency Response (OSWER), the Office of Enforcement and Compliance Assurance, and the Office of Administration and Resources Management. OSWER provides policy, guidance, and direction for the Superfund program; the Office of Enforcement and Compliance Assurance assists with enforcement aspects of the Superfund program; and the Office of Administration and Resources Management assists in many aspects of managing the Superfund program, such as human resources and grants and contract management.

## The Superfund Program's Historical Revenue Source Is Dwindling While EPA Continues to Add Sites to the NPL

The balance of the Superfund trust fund available for future appropriations has decreased significantly since 1996, while EPA has continued to add sites to the NPL. The Superfund trust fund revenues from taxes, cost recoveries, interest, fines, and penalties have decreased from over \$2 billion in fiscal year 1995 to less than \$370 million in fiscal year 2002, when presented in constant 2002 dollars. Since fiscal year 2000, the Superfund program has increasingly relied on revenue from the general fund appropriations to supplement its trust fund, with general fund supplements generally growing in constant 2002 dollars from \$283 million in fiscal year 1995 to \$676 million in fiscal year 2002. Annual program expenditures, expressed in constant 2002 dollars, have remained between \$1.3 and \$1.7 billion from fiscal years 1993 to 2002. From these expenditures, remedial actions at sites on the NPL have consistently received the largest share. EPA continues to place hazardous waste sites on the NPL, adding 283 sites to the NPL from fiscal years 1993 through 2002. At the end of fiscal year 2002, there were 1,233 sites on the NPL, 265 sites had been deleted, and 62

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sites were proposed to the NPL. Of the 1,233 sites on the NPL, 21 percent were in the preconstruction stage, which is primarily study and design, 31 percent had construction activities under way, and 47 percent had completed the construction of the cleanup facility at the site. After construction of the facility is completed, a site can remain on the NPL for many years while the actual cleanup takes place. In fiscal year 2002, EPA funded more investigations and studies at NPL sites than responsible parties, while responsible parties paid for, and sometimes also performed, about half of actions related to the sites' cleanup design, construction, and maintenance of remedies.

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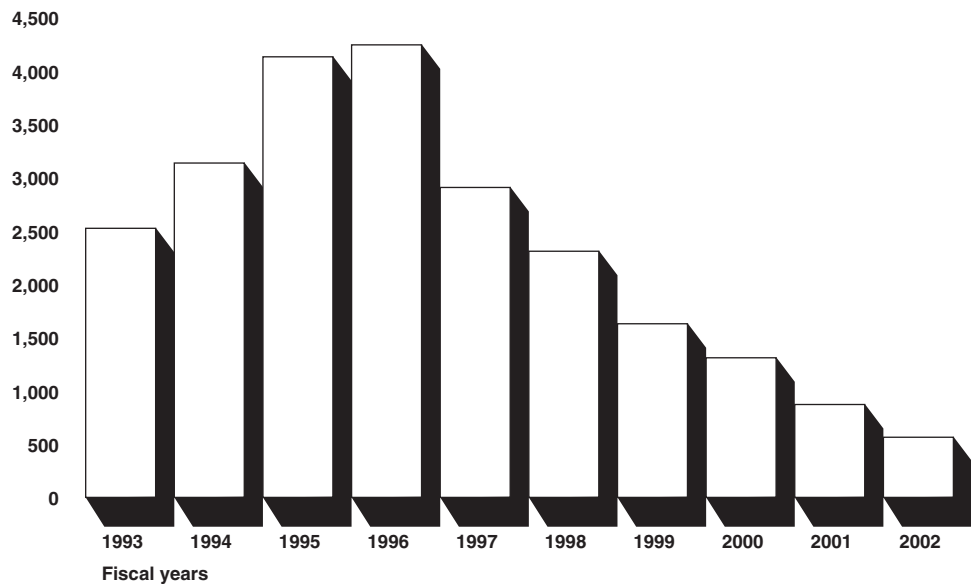
### The Balance of the Superfund Trust Fund Available for Future Appropriations Has Decreased Significantly in Recent Years

The balance of the Superfund trust fund available for future appropriations has significantly decreased since fiscal year 1996 and at the end of fiscal year 2002 stood at \$564 million. Further, revenues into the Superfund trust fund from taxes, cost recoveries, fines, penalties, and interest have steadily decreased, from over \$2 billion in fiscal year 1995 to less than \$370 million in fiscal year 2002, when presented in constant 2002 dollars. The Superfund program's total annual appropriations from the trust fund, in constant 2002 dollars, have decreased overall from almost \$1.9 billion in fiscal year 1993 to about \$1.3 billion in fiscal year 2002. Since fiscal year 2000, the Superfund program has increasingly relied on the revenues from general fund appropriations to supplement the Superfund trust fund, with general fund supplements growing overall—in constant 2002 dollars—from \$283 million in fiscal year 1995 to \$676 million in fiscal year 2002. In addition to appropriations from the trust fund, EPA uses moneys collected from other sources to help pay for cleanups, such as funds collected in advance from responsible parties for cleanups at designated sites.

The balance of the Superfund trust fund available for future appropriations, presented in constant 2002 dollars, has decreased significantly from a high of \$4.2 billion in fiscal year 1996 to \$564 million in fiscal year 2002. Figure 2 shows the decline in this balance.

**Figure 2: The Balance of the Superfund Trust Fund Available for Future Appropriations, Fiscal Years 1993 through 2002**

Constant 2002 dollars in millions



Source: The President's Budget Appendix, Fiscal Years 1995 through 2004.

As discussed above, before 1995, the Superfund trust fund was largely funded by certain taxes, including excise taxes on crude oil and petroleum products and sales of certain chemicals, and an environmental tax on corporations. The trust fund continues to receive revenue from other sources, including cost recoveries, interest from investments, fines, and penalties. Table 1 shows the Superfund trust fund revenue sources, excluding general fund appropriations, from fiscal years 1993 through 2002.

**Table 1: Revenue into the Superfund Trust Fund, Fiscal Years 1993 through 2002**

Constant 2002 dollars in millions

Revenue source	Fiscal year									
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Taxes	\$2,019	\$1,685	\$1,672	\$705	\$82	\$85	\$22	\$5	\$6	\$7
Cost recoveries	214	231	285	276	341	343	338	239	205	248
Interest on unexpended balance	165	202	359	388	359	313	233	245	223	111
Fines and penalties	4	3	3	4	3	5	4	1	2	1
<b>Total</b>	<b>\$2,403</b>	<b>\$2,121</b>	<b>\$2,318</b>	<b>\$1,372</b>	<b>\$785</b>	<b>\$745</b>	<b>\$597</b>	<b>\$490</b>	<b>\$437</b>	<b>\$368</b>

Source: EPA and U.S. Department of Treasury.

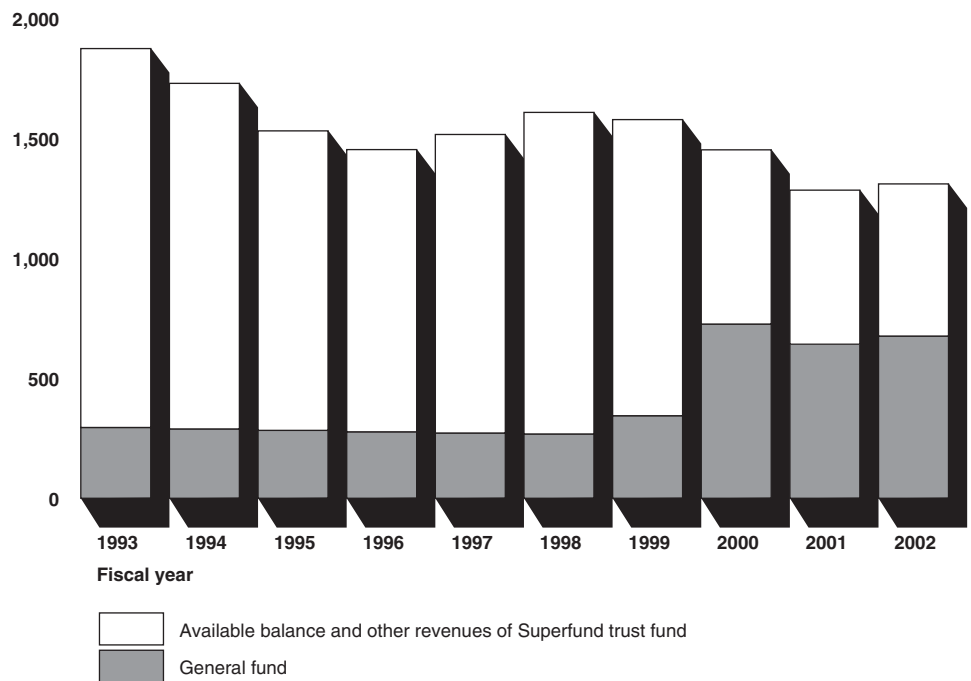
Notes: Table does not include revenues from general fund appropriations. Revenues reflected are presented on an accrual basis and may differ from the numbers presented in the President's Budget Appendix, which presents revenues on a cash basis. Totals presented in this table do not add up due to rounding.

While revenues from the taxes provided the majority of resources through fiscal year 1996, revenues from cost recoveries and interest have provided the greatest portion of the income to the Superfund trust fund since that time, excluding revenues from general fund appropriations. Cost recoveries represent amounts that EPA recovered through legal settlements with responsible parties for site cleanup costs it incurred. Interest revenues stem from the investment of the unexpended balance of the Superfund trust fund, which stood at \$3.4 billion at the end of fiscal year 2002. As shown in table 1, the trust fund continues to receive a small amount of revenue from the excise and corporate taxes that expired in 1995 as the Internal Revenue Service processes amended tax returns or settles litigation with private companies.

Each year EPA receives appropriations from the Superfund trust fund, which is supplemented by appropriations from the general fund. Until fiscal year 2000, the balance of the Superfund trust fund available for appropriations and annual revenues from taxes, cost recoveries, interest, fines, and penalties remained the primary source of appropriations for the Superfund program. Since fiscal year 2000, appropriations from the general fund have been about equal to the amount from the program's historical primary source of appropriations. Overall, general fund appropriations—in constant 2002 dollars—generally grew from \$283 million in fiscal year 1995 to \$676 million in fiscal year 2002. (See fig. 3.)

**Figure 3: Total Appropriations to the Superfund Program, Fiscal Years 1993 through 2002**

Constant 2002 dollars in millions



Source: The President's Budget Appendix, Fiscal Years 1995 through 2004.

Note: These appropriations do not include spending authority for offsetting collections.

Apart from the annual appropriation from the Superfund trust fund, EPA collects funds from other sources to pay for the activities of the Superfund program. These funds, called offsetting collections, are deposited into the trust fund but are not subject to the annual appropriation process. The largest source of these collections is payments by responsible parties as part of settlement agreements to fund response actions at specific sites. These responsible parties typically are unable or unwilling to perform the response action. EPA uses these funds to help finance site cleanups in accordance with the terms of the settlement agreements. In fiscal year 2002, EPA collected about \$130 million from this source. Other sources of offsetting collections include states, which pay a small portion of the cleanup costs at sites, and other federal agencies, which pay for services provided by EPA. The total amount collected from these additional sources in fiscal year 2002 was about \$40 million.



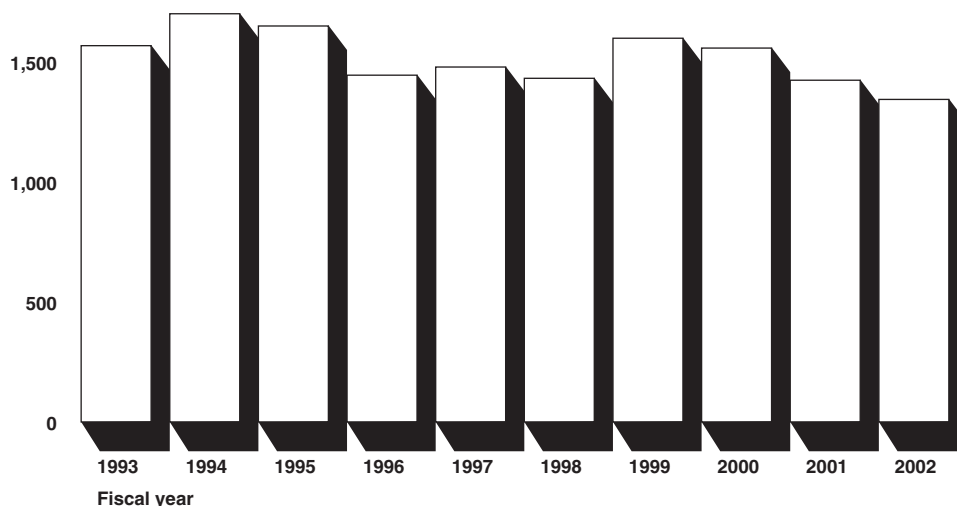
## Actions at NPL Sites Consume the Largest Share of Program Expenditures

During fiscal years 1993 through 2002, in constant 2002 dollars, EPA's annual program expenditures remained between \$1.3 and \$1.7 billion.<sup>2</sup> However, EPA's Superfund program expenditures steadily decreased by \$255 million from fiscal years 1999 through 2002. In responding to this report, EPA noted that this decrease followed a \$100 million reduction to the Superfund enacted appropriation during fiscal year 2000 and subsequent years.

**Figure 4: EPA's Superfund Program Expenditures, Fiscal Years 1993 through 2002**

Constant 2002 dollars in millions

2,000

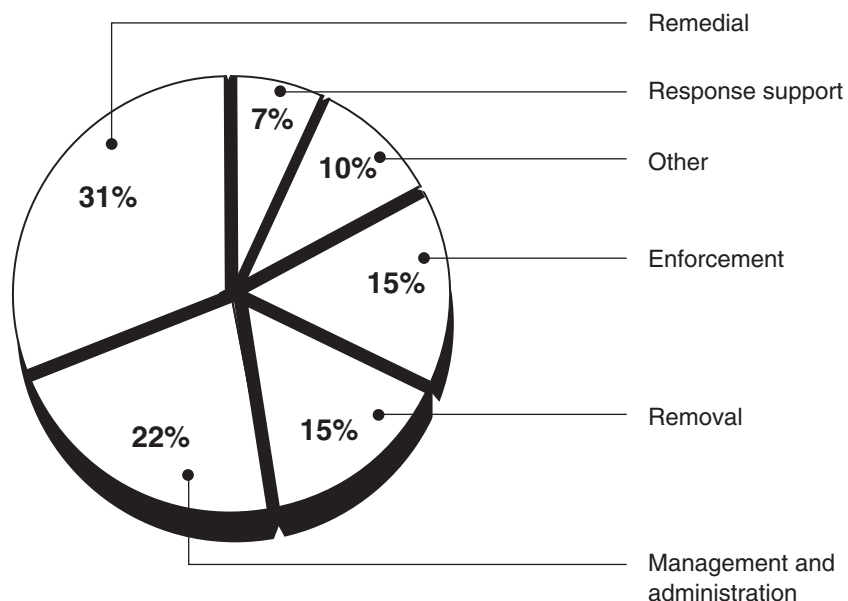


Source: EPA data.

<sup>2</sup>Program expenditures do not include transfers to the Agency for Toxic Substances and Disease Registry (ATSDR), the National Institute for Environmental Health Science (NIEHS), and EPA's Inspector General and Office of Research and Development (ORD). In fiscal year 2002, ATSDR, an agency of the Department of Health and Human Services, received \$85 million to assist in assessments or consultations at hazardous waste sites. NIEHS has not received an allocation from the Superfund program since fiscal year 2000. EPA transferred approximately \$49 million to the Inspector General and ORD combined in fiscal year 2002.

During fiscal years 1993 through 2002, remedial actions consumed the largest share of program expenditures. Remedial actions are generally costly, long-term projects that are designed to provide a permanent remedy at a complex and highly contaminated site. Management and administration expenditures consumed the second largest share of program expenditures. Figure 5 shows the percentages of EPA's Superfund program expenditures in fiscal year 2002.

**Figure 5: EPA's Superfund Program Expenditures, Fiscal Year 2002**



Source: GAO, based upon EPA's analysis of program expenditure data.

Notes: EPA's total program expenditures were \$1.34 billion in fiscal year 2002. EPA determined which activities to include under each expenditure category. "Remedial" expenditures include related activities such as investigations, remedy design, community involvement, construction, post-construction, and oversight of responsible parties. "Removal" expenditures include costs relating to removal assessments, investigations, removal construction, and oversight. "Response support" expenditures include site-specific costs related to technical assistance, technology innovation, contracts management, records management, and general support, as well as costs provided to other organizations through grants, interagency or cooperative agreements. "Management and administration" expenditures include non-site-specific costs, such as program management and budget, policy development and implementation, emergency preparedness activity, contract and information management, training, and general support. "Enforcement" expenditures include activities such as searching for and negotiating agreements with responsible parties. "Other" includes site assessment, federal facilities, and Brownfields expenditures. The Brownfields program is no longer funded by the Superfund appropriation.

## More Than 1,200 NPL Sites Require Further Cleanup Activities

Of the 1,233 sites on the NPL at the end of fiscal year 2002, 21 percent were in the preconstruction phase that largely consists of sites in study and design, 31 percent had construction activities under way, and 47 percent were in the “construction complete” stage.<sup>3</sup> The number of construction completions serves as the program’s key measure of progress for sites on the NPL. EPA continues to add sites to the NPL, adding 283 new sites during fiscal years 1993 through 2002. During that same time frame, EPA deleted 221 sites from the NPL because no further cleanup response was necessary. In fiscal year 2002, EPA funded more investigations and studies at NPL sites than responsible parties, while responsible parties paid for, and sometimes also performed, about half of the actions related to the sites’ cleanup design, construction, and maintenance of remedies.

As shown in table 2, at the end of fiscal year 2002, there were 1,233 sites on the NPL, 265 sites had been deleted, and 62 sites were proposed to the NPL.

**Table 2: Cleanup Status of Proposed, Final, and Deleted NPL Sites at the End of Fiscal Year 2002**

NPL status	Study and design phase				Construction under way	Construction completed	Deferred to another authority	Total
	Awaiting study	Study under way	Remedy selected	Design under way				
Proposed	14	30	6		11		1	62
Final	19	155	29	58	387	585		1,233
Deleted						261	4	265
<b>Total</b>	<b>33</b>	<b>185</b>	<b>35</b>	<b>58</b>	<b>398</b>	<b>846</b>	<b>5</b>	<b>1,560</b>

Source: GAO analysis of EPA data.

Of the total 1,233 NPL sites at the end of fiscal year 2002, 158 were federal facilities, sites owned or operated by a federal agency. Through fiscal year 2002, 265 NPL sites had been deleted because no further cleanup response is appropriate. According to EPA regional officials, about one fourth of the 62 sites proposed for placement on the NPL were expected to become final, while most of the cleanups at other sites continue under other authorities or agreements.

<sup>3</sup>EPA defines a construction complete site as a site where physical construction of all cleanup actions is complete, all immediate threats have been addressed, and all long-term threats are under control.

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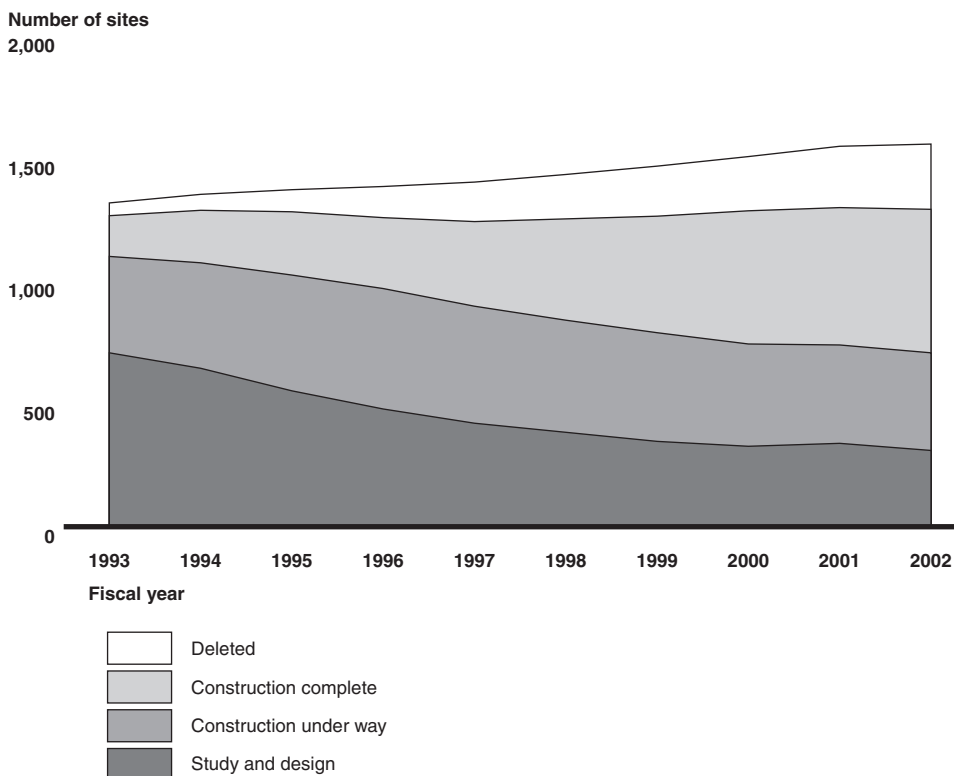
A majority of NPL sites are in the construction complete phase. However, depending on the remedy, work may continue at a site for many years after a site is deemed construction complete. A common example of this is a groundwater restoration project, where the treatment of the groundwater begins after the facility is completed. For these cleanups at sites that are financed by the Superfund program, EPA operates and maintains the cleanup facility for up to 10 years, with the state paying 10 percent of the cost, after which the site is turned over to the state to continue operation and maintenance activities.<sup>4</sup>

EPA typically adds new sites to the NPL each year and finalized 283 new sites from fiscal years 1993 through 2002. During this time period, EPA deleted 221 sites when no further response was appropriate. Although more sites have been finalized on the NPL than deleted throughout these fiscal years, the overall number of sites on the NPL remained relatively steady. While the number of sites reaching the construction complete phase grew, and the number of sites in study and design decreased, the number of sites in the construction underway phase remained relatively steady. At the end of fiscal year 2002, approximately half of the NPL sites were still in study and design or had construction under way. Figure 6 demonstrates the overall growth in the NPL and the number of sites that have reached the construction complete phase.

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<sup>4</sup>For funding purposes, CERCLA classifies activities during this 10-year period, which EPA calls "long-term response actions," as part of the cleanup, not as operation and maintenance.

**Figure 6: Cleanup Status of Proposed, Final, and Deleted NPL Sites, Fiscal Years 1993 through 2002**



Source: GAO analysis of EPA data.

Notes: We verified and corrected data only for fiscal year 2002. Deleted sites include sites deferred to another authority. Study and design sites include sites that are awaiting study, have study under way, have had a remedy selected, or have design under way.

In responding to this report, EPA noted that figure 6 does not reflect a backlog of unfunded projects that are ready to begin construction. EPA also responded that, in their opinion, projects currently in or about to enter construction tend to be larger, more complex, and more expensive than those of 5 to 10 years ago. According to EPA, these factors led to the Administration's decision to request a \$150 million increase for Superfund construction in the fiscal year 2004 President's budget request.

Although the law allows EPA to pay for the cleanup at a site and use enforcement actions to recover the cleanup costs, responsible parties frequently cooperate with EPA and conduct the cleanup under EPA oversight. In such cases, the responsible party pays for all or part of the cleanup. According to EPA, responsible party involvement in the program remains strong, and the total value of responsible party commitments since the inception of the program exceeds \$20 billion.<sup>5</sup> The actual dollar amount that responsible parties expend for site cleanups is unknown because the parties are not required to publicly report either the cleanup or any related transaction costs they incur. However, EPA tracks the participant—EPA, the responsible party, a federal agency, or in some limited cases, the state—leading a cleanup action at a site and indicates whether the participant is providing a majority of the funding for the action. For example, if a remedial action is identified as a Superfund lead action, EPA uses annual Superfund appropriations to conduct the work and pay for the remedial action. Over the course of a cleanup, however, a variety of participants may take the lead on different actions. Table 3 demonstrates the percentage of actions led by EPA, a responsible party, or another participant.

**Table 3: Percentage of Ongoing Actions at NPL Sites Led by Various Entities, Fiscal Year 2002**

Entity leading action	Preconstruction			Construction	Post-construction
	Site inspection	Remedial investigation and study	Remedial design	Remedial action	Operation and maintenance <sup>a</sup>
EPA - Superfund	100	27	36	22	18
Responsible party	0	17	39	45	67
Other federal agency	0	54	24	31	10
Other	0	2	0	2	5

Source: GAO analysis of EPA data.

Notes: This presentation of lead data includes all actions that were ongoing at some point during fiscal year 2002. EPA typically presents lead data as a percentage of remedial actions that start in a

<sup>5</sup>Commitments include the value of cost recoveries and EPA's estimate of the value of the cleanup work that responsible parties have agreed to perform.

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designated fiscal year. In addition, EPA includes actions at Superfund alternative sites but does not include actions at federal facility sites in the percentages.

<sup>a</sup>Operation and maintenance activities protect the integrity of the selected remedy for a site. According to an EPA official, all operation and maintenance should be led by the responsible party or state and any operation and maintenance activity identified as led by EPA is most likely an error.

In fiscal year 2002, EPA took the lead on more actions than responsible parties in the earlier stages of the cleanup process, whereas responsible parties took the lead more often in the later stages of the cleanup, specifically on remedial actions and during operation and maintenance. However, EPA still pays for oversight of the responsible party's cleanup activities when the responsible party primarily finances an action; and in some limited cases EPA reimburses the responsible party for some or all of the cleanup work. Other lead participants include a responsible party leading an action under a state program; EPA, a state, or tribe conducting a cleanup using a responsible party's funds; or a state with a state cleanup program that does not use Superfund dollars.

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## EPA Considers Many Factors in Selecting Sites for the NPL

EPA uses its Hazard Ranking System to assess the hazards that a site poses to human health and the environment to determine a site's eligibility for placement on the NPL. After a site's eligibility is determined, EPA regions then consider many other factors in selecting the sites to submit to EPA headquarters for proposal to the NPL. The more prominent of these factors considered are the availability of alternative federal or state programs that could be used to clean up the site, the status of responsible parties associated with the sites, and the cost and complexity of the cleanup. State cleanup programs serve as an alternative to the Superfund program and are the approach preferred by most of the state officials that we interviewed, many of whom believed state cleanups are faster. However, state cleanup programs generally present a feasible alternative only when a viable and cooperative responsible party has been identified to fund and perform the cleanup. According to EPA regional officials, at least 42 of the 54 sites proposed to the NPL in fiscal years 2001 and 2002 either did not have a viable and cooperative responsible party or were too costly or complex for states to address.

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## EPA Uses Its Hazard Ranking System as the Principal Mechanism for Listing Sites

EPA uses the Hazard Ranking System as its principal mechanism for determining the eligibility of sites for placement on the NPL, accounting for 1,506 of the 1,560 sites that were proposed or finalized on the NPL through fiscal year 2002. The ranking system is a numerically based screening system that uses information from initial, limited investigations to assess



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the relative potential of sites to pose a threat to human health or the environment. Using a structured analysis approach to scoring sites, the ranking system assigns numerical values to factors that relate to risk-based conditions at the site. The factors considered are grouped into three categories: (1) the likelihood that a site has released or has the potential to release hazardous substances into the environment; (2) the characteristics of the waste; and (3) the people or sensitive environments affected by the release. The site inspection provides the data necessary to score the site according to the Hazard Ranking System. Sites that score at least 28.5 on the ranking system are eligible for listing on the NPL. Because the ranking system scores are based on initial, limited investigations, they are only used to determine the eligibility of sites for listing on the NPL. Scores are not used to prioritize among sites that qualify for the NPL and do not determine priority in funding cleanup actions. More detailed studies, following the listing, are needed to determine the extent of the contamination and the appropriate response for particular sites.

Hazardous waste sites can also qualify for the NPL by means of state or territorial designation or by meeting a set of three criteria. Each state and U.S. territory is permitted a one-time opportunity to designate a site for placement on the NPL. Through fiscal year 2002, 37 states and four territories had designated sites for addition to the NPL. A site may also be added to the NPL when it meets three criteria: (1) the Department of Health and Human Services' Agency for Toxic Substances and Disease Registry has issued a health advisory that recommends individuals leave the area of the site, (2) EPA determines the site poses a significant threat to public health, and (3) EPA anticipates that using its remedial authority will be more cost-effective than using its removal authority. Only 13 sites have been added to the NPL through this mechanism.

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### EPA Considers Alternative Programs, Availability of Responsible Parties, and the Cost and Complexity of the Sites

Achieving the minimum hazard ranking score of 28.5 to qualify for the NPL does not guarantee a site placement on the list. EPA regions consider many factors before deciding to submit a site to EPA headquarters for proposal to the NPL. EPA and state officials told us that they consider a variety of additional factors, the most common of which are determinations of whether (1) other federal or state programs are available to cleanup the site, (2) a viable responsible party has been identified to clean up the site, and (3) the cost or complexity of the cleanup effort is likely to require federal assistance through the Superfund program.

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Many of the EPA regional and state officials we interviewed considered the NPL a “last resort” for sites that cannot be addressed under other state or federal programs. Officials of one EPA region told us, for example, that programs other than Superfund are covering about 98 percent of the hazardous waste sites discovered in that region. In response to this report, EPA headquarters officials stated that the NPL is one of a number of options for cleaning up sites and that the regions should evaluate all reasonable options and select the one that best meets the objectives for the site. EPA defers NPL listing for sites that can be cleaned up under other federal programs or authorities. For example,

- The Resource Conservation and Recovery Act (RCRA), Subtitle C, which regulates hazardous waste management. Under this program, EPA requires RCRA-regulated facilities to investigate and clean up releases of hazardous waste to the environment; and
- EPA’s Brownfields program, which is designed to assist in the assessment and cleanup of abandoned, idled, or underused industrial and commercial facilities where expansion of redevelopment is complicated by real or perceived environmental contamination.

Two EPA policies also defer NPL listing for sites that can be cleaned up under state programs. EPA’s state deferral policy establishes formal agreements between EPA and states through which EPA defers consideration of NPL listing of sites, while the state compels and oversees responsible parties’ response actions. Under this policy, response actions should be substantially similar to a response required under CERCLA. EPA’s voluntary cleanup program policy establishes agreements with states that, for sites that are cleaned up under state programs, EPA will generally assume that state activities are sufficient and the agency will not take separate removal or remedial action at sites in the state program. Both of these policies allow states to handle the cleanup of sites that may otherwise be proposed to the NPL. Hazardous waste cleanup officials in 6 of the 10 states that we interviewed indicated a preference for cleaning up hazardous waste sites under their state programs.

EPA has also established the Superfund alternative sites policy within the Superfund program that provides a framework for the agency to suspend the NPL listing process for sites that might otherwise be listed on the NPL. This policy gives the responsible parties an opportunity to enter into an agreement that commits them to clean up the site in the same manner as if it were listed on the NPL. Because less time is spent on the site-listing

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process, according to EPA, this policy helps to expedite the process of entering into settlements with responsible parties and the eventual cleanup.

In addition to performing cleanups under their own state programs, states play an important role in the cleanup of hazardous waste sites through their agreements with EPA. Many states are involved in the early phases of the cleanup process, such as preliminary assessment and site investigation. Many of these states have entered into cooperative agreements with EPA to perform this work. Appropriations laws for fiscal years 1995 and 1996 required the concurrence of the governor of the applicable state before EPA could propose a site for inclusion on the NPL. Although no longer required by appropriations language, as a matter of policy, EPA continues to request state support on the listing of sites onto the NPL. According to EPA, since 1995 EPA has proposed 203 sites to the NPL; among them, only one site was proposed over state opposition.<sup>6</sup>

EPA regional officials stated that the lack of cooperation by the party responsible for a site was a factor in 36 of the 54 sites proposed to the NPL in the last 2 fiscal years. The burden on states of funding the cleanup effort when they are unable to obtain responsible party cooperation often drives state support for listing such sites on the NPL. In some cases, site cleanup responsibility cannot be assigned to a specific party because the party is no longer in existence or is unable to pay. Cleaning up such “orphan” sites would require government funding; these cleanups may be too expensive for states to perform. In other cases, responsible parties may have been identified, but they are uncooperative or unwilling to fund the cleanup. While all states have some form of enforcement authority to compel responsible parties to fund cleanups, EPA’s enforcement powers are sometimes more compelling or applicable to the situation. For example, officials in several states stated that they had experienced difficulty when pursuing enforcement actions at sites with numerous responsible parties. Some sites, such as hazardous waste dumps, may have hundreds or even thousands of responsible parties because CERCLA defines responsible parties as the generators and transporters of hazardous waste, in addition to the owners and operators of the site.

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<sup>6</sup>The Fox River site in Wisconsin was proposed to the NPL in July 1998 but has not been finalized.

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Officials in most of the regions and states pointed to the strength of EPA's enforcement powers to compel responsible parties to cooperate with state authorities. Several officials told us that they had used the threat of NPL listing to persuade responsible parties to cooperate earlier in the process. EPA's enforcement powers include the ability to seek financial penalties against responsible parties for noncompliance, the ability to issue formal orders to the responsible parties to perform cleanups, and the liability scheme by which EPA can force one responsible party to fund the entire cleanup at a site, even if it is unclear how much of the contamination it caused. EPA's enforcement powers are sometimes referred to as a "gorilla in the closet"—states can threaten to unleash the EPA "gorilla" on recalcitrant responsible parties. A few states pointed to the value of maintaining strong EPA enforcement powers because they encourage responsible parties to cooperate with states.

Officials in many of the regions told us that the complexity and cost of sites were factors that helped them determine whether sites should be submitted to EPA headquarters for proposal to the NPL. Of the 54 sites proposed in the last 2 fiscal years, regional officials described 25 percent of them as either complex or costly, or both. Officials in one region described a site where contamination had leaked about 500 feet out into a major river and spread through approximately 15 feet of sediment, making cleanup of the site complex. According to a recent study, while 48 states and Puerto Rico have funds that can be used for the cleanup of hazardous waste sites, 31 of the 41 states that provided data had relatively small fund balances (under \$25 million), making it difficult for states to clean up expensive sites.<sup>7</sup> In addition, the study found that states' cleanup fund balances have been declining since 1990. Without adequate funding to cleanup the more expensive sites, state cleanup programs generally present a feasible alternative to NPL listing only when a viable and cooperative responsible party has been identified to fund or perform the cleanup.

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<sup>7</sup>Environmental Law Institute, *An Analysis of State Superfund Programs: 50-State Study, 2001 Update*, (Washington, D.C.: 2002). Data is current as of the end of the state's 2000 fiscal year (June 30, 2000, for most states).

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## The Superfund Program Faces Numerous Future Fiscal Challenges

The need for federal cleanup funds to address sites without alternative funding sources may grow in coming years, even as EPA predicts the program's historical source of funding will be depleted at the end of fiscal year 2003. A 2001 study estimated that the cost of implementing the program under then-current law would total \$15 billion for the 10 years ending in fiscal year 2009. The number of sites whose cleanup cannot be funded by responsible parties or states could increase because an increase in bankruptcies would lead to more sites without viable responsible parties and states face budget problems that will curtail their already limited ability to pay for cleanups at sites that lack viable responsible parties. Without responsible parties to fund remediation costs at hazardous waste sites and with states' capacity curtailed, federal funding would likely be sought to perform any cleanup that EPA proposed to do. However, EPA officials expect that the balance of the Superfund trust fund available for future appropriations will be depleted at the end of fiscal year 2003. EPA has recently asked an advisory council for guidance on several issues affecting the Superfund program's future. Because Superfund lacks indicators to fully measure the outcomes of the program's cleanup efforts, EPA has asked the advisory council to develop criteria by which to measure the program's progress. However, it is unclear whether the advisory council will reach consensus on its recommendations; and its findings are not expected until December 2003, at the earliest.

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## The Number of Sites Without Responsible Parties or States to Fund Their Cleanup Is Expected to Rise

The number of sites that have no identifiable nonfederal source to fund their cleanup is growing, and several factors indicate the potential for additional growth in the future. Responsible parties and EPA lead most actions at NPL sites. According to EPA, responsible parties have funded about 70 percent of the remedial actions begun at sites other than federal facilities in the last 3 fiscal years.<sup>8</sup> Officials in 7 of the 10 EPA regions, however, have either observed an increase in the number of sites without viable responsible parties, or expect such an increase in the future. Officials in one region, for example, told us that the proportion of responsible party-led remedial actions in their region had decreased over the last 10 years, from about 70 percent to about 50 percent currently. Officials in all regions pointed out factors that could lead to an increase in

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<sup>8</sup>EPA tracks lead statistics based on new starts of remedial actions at sites other than federal facilities by fiscal year. Federal facilities, sites whose cleanup is led by federal agencies, make up about 13 percent of NPL sites.

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sites in the coming years whose cleanup cannot be funded by responsible parties or states, including (1) the states' preference to work directly with viable responsible parties, which leaves fewer sites with viable responsible parties eligible for proposal to the NPL; (2) an increase in sites that lack viable responsible parties due to bankruptcies; and (3) fiscal constraints on states' capacity to clean up sites on their own. For example, officials in one region mentioned that difficult economic times would likely contribute to an increase in bankrupt facilities at the same time that states are experiencing budget shortfalls. Without responsible parties to fund remediation costs at hazardous waste sites and with states' capacity curtailed, any cleanup at these sites would have to be funded with federal funds.

The states' preference to work directly with responsible parties makes sites with viable and cooperative responsible parties less likely to be listed on the NPL, increasing the potential need for federal funds if any of the remaining sites that are added to the NPL are to be cleaned up, since these sites may lack viable responsible parties. When Congress enacted the federal Superfund program in 1980 at least 21 states did not have cleanup statutes that provided them with enforcement authorities. As of 2001, all states had laws that provide them with some form of enforcement authority, and 48 states had statutory authority for conducting voluntary cleanup programs, according to a study by the Environmental Law Institute—an environmental research group.<sup>9</sup> Officials in most of the 10 states we contacted agreed that they preferred to work with viable and cooperative responsible parties under their state program, rather than turn the sites over to the EPA for NPL listing. They provided a variety of reasons for not supporting a site's listing on the NPL, including the state's ability to perform the cleanup faster, community or political opposition to listing, and a belief that the federal process leads to more expensive cleanups. For example, one state's officials believed the state could perform a site's cleanup more quickly than EPA because, in their opinion, EPA spent too much time in the inspection and design phases. Although states may sometimes need EPA's enforcement capacity to compel responsible parties to clean up sites, states prefer working with responsible parties under their own authority whenever the parties are available, viable, and cooperative. As a result, some sites that would have been led by the responsible party under the Superfund program are addressed using state enforcement. This

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<sup>9</sup>Environmental Law Institute, *An Analysis of State Superfund Programs: 50-State Study, 2001 Update*, (Washington, D.C.: 2002).

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has the potential to increase cleanup costs to the Superfund program for any of the remaining sites that are added to the NPL, since these sites may not have viable responsible parties.

The reported increase in sites without viable responsible parties could, if EPA proposes to address the cleanup of these sites, lead to EPA requesting an increased appropriation because states cannot handle many of these orphan sites on their own. Officials in 8 of the 10 EPA regions told us that they expect more responsible parties to declare bankruptcy in the future. Officials in one region, for example, believed that more of the small, marginal industries might go bankrupt because of difficult economic times. States, however, cannot pay to clean up more expensive orphan sites on their own. According to the recent study by the Environmental Law Institute, 48 states have established cleanup funds or provided a mechanism for the state agency to pay for one or more types of cleanup activities at non-NPL sites. Among the most common sources for these state cleanup funds are appropriations from the legislature, fees charged for hazardous waste or other activities, taxes, and cost recoveries. However, most of the states that have funds to pay for orphan sites can only afford to clean up sites with lower cleanup costs. Only 13 of the states with cleanup funds spent more than \$10 million on cleanups in fiscal year 2000, according to the report.<sup>10</sup> Even in a state that was among those that spent the most on cleanups in fiscal year 2000, the state usually funds the cleanup at sites where the overall cleanup costs less than \$5 million, leaving sites that cost over \$10 million to federal authorities, according to state officials.

The potential for current state budget shortfalls to affect states' capacity to clean up orphan sites is another factor that could result in EPA increasing its request for federal cleanup funds, if EPA proposes to address the clean up of these sites. The National Governor's Association estimated in February 2003 that states' budget shortfalls were mounting—\$30 billion for 2003 and about \$82 billion in 2004. Officials in 6 of the 10 EPA regions agreed that states in their region faced fiscal problems and anticipated that shortfalls could cause problems with states' future cleanup capabilities. According to the National Governor's Association, states must reduce spending or increase taxes to offset these shortfalls in the short run. Any reductions in the budgets of state cleanup programs might decrease the

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<sup>10</sup>Only 38 states reported expenditures for the Environmental Law Institute's report; in addition, several states did not disaggregate the amounts spent on NPL and non-NPL sites.



states' ability to fund further cleanups, raising the question of whether federal funds would be provided for any potential cleanup of affected orphan sites. Officials in one region, for example, suspected the region might be asked to fund cleanup at more sites as a result of state financial problems because two of its states were implementing across-the-board percentage cuts to all state programs, including their cleanup programs.

### EPA Officials Expect The Program's Primary Funding Source To Be Depleted by the End of Fiscal Year 2003, Increasing the Need for Alternative Funding Sources

At the same time that many EPA regional officials expect the need for federal cleanup funds to address sites without alternative funding sources to grow, the balance of the Superfund trust fund available for future appropriations—historically the program's principal source of funding—is nearly exhausted. In previous years, funds remained in this balance to carry over into the next year. However, the balance has fallen consistently since fiscal year 1996. According to EPA officials, unless EPA receives additional funds from revenue sources such as cost recoveries, the balance of the trust fund available for future appropriations will be negative at the end of fiscal year 2003, as shown in table 4.

**Table 4: Projected Balance of the Superfund Trust Fund Available for Future Appropriations, Fiscal Year 2003**

Source	Fiscal year 2003 amount (in millions)
<b>Fiscal year 2002 (actual balance)</b>	<b>\$564.0</b>
Revenues into the trust fund:	
Environmental taxes	0.0
Cost recoveries	175.0
Interest	67.0
Fines and penalties	3.0
Tax adjustments	(99.4) <sup>a</sup>
Transfer from general fund	636.4
<b>Total projected annual revenues</b>	<b>782.0</b>
<b>Total (balance and revenues)</b>	<b>1,346.0</b>
<b>Fiscal year 2003 budget authority</b>	<b>1,350.3<sup>b</sup></b>
<b>End of fiscal year 2003 (estimated balance)</b>	<b>(\$4.3)</b>

Source: GAO analysis of EPA data.

<sup>a</sup>According to an Internal Revenue Service official, companies regularly file adjustments to their corporate income taxes; according to EPA officials, however, the size of this adjustment was unexpectedly large.

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<sup>b</sup>Includes a \$77.4 million transfer to the Agency for Toxic Substances and Disease Registry (ATSDR).

If the balance of the trust fund available for future appropriations dwindles as EPA projects, no funds would be left to carry over into fiscal year 2004. Annual revenues from sources other than general fund appropriations, such as cost recoveries and interest, will be insufficient to cover cleanup costs in fiscal year 2004. To offset this decline in funds, EPA is seeking a 73 percent increase in its fiscal year 2004 budget request for general revenues—from \$632 million in fiscal year 2003 to \$1.1 billion. If the budget request is approved, for the first time in the program's history the general fund would provide a vast majority—nearly 80 percent—of the Superfund program's funding.

As part of a fiscal year 2000 appropriations bill, Congress asked Resources for the Future, an environmental research group, to conduct an independent study to estimate how much money EPA would need to implement the Superfund program from fiscal year 2000 to fiscal year 2009. Specifically, Congress wanted researchers to examine the costs of cleaning up sites already on the NPL, cleaning up sites that would be added to the NPL through fiscal year 2009, conducting removal actions, performing 5-year reviews, implementing long-term response actions, and the various activities associated with administering the program. In its 2001 report, Resources for the Future estimated the future costs of implementing the program under then-current law.<sup>11</sup> Researchers estimated that annual program costs would most likely remain above the fiscal year 1999 level until fiscal year 2006, and would decrease 14 percent by fiscal year 2009. Resources for the Future concluded that the Superfund program would cost about \$15 billion over the 10 years ending in fiscal year 2009, according to the authors' best estimate of the likely future cost of the program under then-current law and policies, and would likely not experience a dramatic decrease in its annual costs.

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<sup>11</sup>Probst, Katherine N. and Konisky, David M., *Superfund's Future: What Will It Cost? A report to Congress*, Resources for the Future (Washington, D.C.: 2001). This study focused on costs and did not explicitly discuss cost-effectiveness or benefit considerations.

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## EPA Is Taking Steps to Address Program Challenges

EPA has taken steps to address several uncertainties surrounding the program's future viability. EPA has asked the National Advisory Council for Environmental Policy and Technology<sup>12</sup> to set up a subcommittee to address several Superfund programwide issues, including some that will affect the program's future. EPA charged the subcommittee, first convened in June 2002, with addressing questions related to the role of the NPL, the role of Superfund at so-called "mega sites,"<sup>13</sup> and measurements of program progress. According to the subcommittee's charge, the overall intent of this effort is to assist in identifying the future direction of the Superfund program in the context of other federal and state waste- and site-cleanup programs. EPA officials have stated that the results of the subcommittee's work will be important in setting the future course of the program. The subcommittee is scheduled to report its findings to the full advisory council for its consideration in December 2003, before issuing the report to EPA. While the subcommittee's findings are still uncertain, some of its members and EPA officials have stated that the subcommittee may not reach a consensus on specific recommendations, in which case it would present a discussion of the different opinions of subcommittee members.

EPA underscored the limitations of its current means of measuring program performance when it asked the National Advisory Council for Environmental Policy and Technology subcommittee to address measures of the Superfund program's progress. Since 1995, EPA has used construction completions as the program's key measure of progress for sites on the NPL. As EPA pointed out to the subcommittee, however, construction completions suffer from several shortcomings. Construction completions neither measure nor characterize the impacts of cleanup efforts on human health and the environment. In addition, construction completions do not correlate as milestones for non-NPL cleanups or with efforts at other hazardous waste cleanups. EPA implemented two new

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<sup>12</sup>EPA established the National Advisory Council for Environmental Policy and Technology in 1988 to provide independent advice to the EPA Administrator on a broad range of environmental policy, technology, and management issues. Council members include senior leaders and experts who represent academia, business and industry, community and environmental advocacy groups, environmental justice organizations, professional organizations, and state, local, and tribal governments.

<sup>13</sup>Defined by the Resources for the Future study as sites whose cleanup costs exceed \$50 million. The National Advisory Council for Environmental Policy and Technology subcommittee has broadened the definition of mega sites to include large, complex, and other types of sites.

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environmental indicators in fiscal year 2003 to measure human exposures under control and migration of contaminated ground water under control at NPL sites. However, EPA acknowledges that there are still few cross-program metrics to capture comprehensive program outcomes. As EPA states, this shortcoming prevents the agency from communicating the outcomes of its work at hazardous waste sites to the public, Congress, states, and the regulated community.

In 2002, EPA implemented a new process related to the addition of sites to the NPL designed to maintain a stable level of costs to the program by considering the costs, risk, urgency, and other aspects of new NPL listings. EPA's new process provided an additional layer of review to select among sites submitted for proposal to the NPL by EPA regions. As part of this process, EPA officials used two criteria—risk and urgency—to divide the 30 sites submitted for proposal by regions into five tiers. EPA also, for the first time at this stage in the listing process, considered the costs to clean up the sites and the timing of those costs, according to EPA officials. Officials used the regions' estimates of site costs to evaluate the overall costs of listing different groups of sites, with an understanding that these preliminary estimates are highly uncertain. In addition, EPA considered information on state, tribal, community, and congressional delegation support for listing the site; whether cleanup of the site was likely to be federally funded or funded by the responsible party; and whether any environmental justice or tribal issues were associated with the site. EPA staff also considered enforcement concerns in deciding which sites to recommend to the Assistant Administrator for Solid Waste and Emergency Response for proposal. Whereas EPA approved almost all sites that the regions submitted for proposed placement on the NPL in the past, the April 30, 2003, proposed rule included only 14 of the 30 sites submitted.<sup>14</sup> According to EPA, this new process was at least in part a response to concerns that EPA was listing sites without foreseeable funding to start the cleanup. EPA officials also told us that the program has carried a backlog of unfunded construction projects since fiscal year 2001. The process used to select this round of proposals has not yet been formalized and thus is subject to change before the next round of proposals expected in September 2003, according to EPA.

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<sup>14</sup>EPA officials emphasized that no final decision had been made on the 16 sites not proposed in this round.

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In 2002, EPA had also issued a draft directive to consider, among other things, the costs of sites before listing them, but decided not to formalize this guidance. Representatives of the Association of State and Territorial Solid Waste Management Officials objected to EPA's draft directive stating their belief that, if warranted, sites should be listed on the NPL regardless of the program's available funding. They further noted that listing only those sites that could be funded gave the false impression that all necessary site cleanups were under way. Although the process that EPA used in the most recent round of listings was driven by the same concerns as the draft directive, an EPA official told us that the process was not necessarily an outgrowth of the draft directive.

EPA officials are also concerned about two aspects of the long-term stewardship of sites: the burden that the operation and maintenance of sites has on states and the monitoring and enforcement of institutional controls. According to several EPA and state officials, states are increasingly concerned about the turnover of sites with federally funded remedial actions to the states for operation and maintenance. Current budget problems exacerbate these concerns, according to EPA. EPA regional officials reported that almost all states had met their obligations for the operation and maintenance of sites in the past. EPA regions predicted that 28 sites that have been in federally funded, long-term response action could be transferred to states for operation and maintenance by the end of 2005. Median annual costs for the operation and maintenance of these sites could reach \$172,500 per site, according to EPA regional officials' estimates. To address the issue of operation and maintenance, EPA is conducting an initiative to optimize the performance of federally funded groundwater treatment facilities at sites across the country. The goal of the initiative is to ensure that these treatment facilities are working as effectively as possible before they are turned over to states for operation and maintenance. The EPA Inspector General found that this study has produced valuable information on the cost and performance of these groundwater treatment facilities and has resulted in a number of recommendations.

EPA is also concerned about the monitoring and enforcement of institutional controls following a site's cleanup. According to EPA, institutional controls include administrative or legal controls to minimize the potential for human exposure to contamination by limiting land or resource use. For example, a local government could use a zoning restriction to prohibit residential development in an area of contamination. Other examples of institutional controls include easements, covenants,

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well-drilling prohibitions, and special building permit requirements. According to EPA, however, institutional controls have certain limitations. For example, the enforcement of institutional controls, such as local permits or groundwater use restrictions, depends on the willingness and capability of the local government entity to monitor compliance and take enforcement action. In addition, because institutional controls such as consent decrees are not binding on subsequent owners of sites, the transfer or sale of a site can lead to the erosion of these institutional controls. In response to concerns about maintaining institutional controls, EPA is developing an information network to centralize the tracking of institutional controls so that interested parties would be able to identify institutional controls at any site.

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## Conclusions

As the Superfund program continues to add sites to the NPL and funding sources shift toward general revenues, the effect of EPA's actions to address future program challenges remains uncertain. While the Superfund program has implemented indicators to gauge the impacts of its efforts on human health and the environment, EPA has acknowledged the limitations of its current means of measuring program performance and agrees that this shortcoming prevents the agency from communicating the outcomes of its work at hazardous waste sites to the public, Congress, states, and the regulated community. Although the National Advisory Council for Environmental Policy and Technology subcommittee is expected to recommend various policy alternatives to EPA regarding the Superfund program, the subcommittee is unlikely to complete its final report until December 2003, at the earliest. The group's findings, including how EPA should measure program performance, are as yet uncertain. Upon receipt of the advisory council's report, EPA will then have to decide what actions to take to address future program challenges. Given the program's limited funding, EPA could use performance indicators to help evaluate, prioritize, and serve as the basis for making funding decisions. If successfully implemented for the Superfund program, establishing these measures would also help EPA and the Congress make the difficult funding, policy, and program decisions that the current budget environment demands. In doing so, EPA will have an opportunity to make fundamental changes to improve the management of the Superfund program.

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## Recommendation for Executive Action

In considering changes to the program to address future challenges associated with the Superfund program's fiscal uncertainty, we recommend that the Administrator, EPA, develop indicators that can be used to measure program performance.

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## Agency Comments

We provided EPA with a draft of this report for review and comment. While EPA generally agreed with this report's findings and recommendation, it provided a number of comments and clarifications, which we have incorporated into this report as appropriate. EPA pointed out that it is actively working on indicators to fully measure program performance concurrent with the National Advisory Council for Environmental Policy and Technology process. The agency specifically mentioned two new Superfund environmental indicators implemented during fiscal year 2003: human exposure under control and migration of contaminated ground water under control. We acknowledge that the agency is actively working in this area concurrent with the advisory council process, and we have revised this report to include the agency's recent implementation of these environmental indicators. In responding to our draft, EPA also commented that, to date, annual appropriations for the program have remained relatively steady and have been largely independent of the trust fund balance. This report does not infer any connection between the Superfund trust fund balance and total annual appropriations for the program. EPA provided written comments, which appear in appendix II.

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As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution of it until 30 days from the date of this letter. At that time, we will send copies of this report to the appropriate congressional committees; the Administrator, EPA; and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.



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If you or your staff have any questions, please call me at (202) 512-3841. Key contributors to this report were Barbara Johnson, Richard Johnson, Jerry Lauder milk, Jonathan S. McMurray, Judy Pagano, Peg Reese, Nico Sloss, Anne Stevens, and Tatiana Winger.

Sincerely yours,

A handwritten signature in black ink, reading "John B. Stephenson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John B. Stephenson  
Director, Natural Resources  
and Environment

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# Objectives, Scope, and Methodology

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The objectives of this review were to examine (1) the current status of the Superfund program, (2) the factors guiding the Environmental Protection Agency's (EPA) selection of sites to be placed on the National Priorities List (NPL), and (3) the program's future outlook. To address these objectives, we discussed the Superfund program with officials in EPA headquarters, the 10 EPA regions, and 10 states. In order to gain a balance of views from states, we selected a nonprobability sample of 10 states, consisting of the 5 states that had the most sites proposed to the NPL in the last 5 years (California, Florida, New Jersey, New York, and Texas) and the 5 states that had no sites proposed in the past 10 years (Arizona, Delaware, North Dakota, Nevada, and Wyoming). The 5 states that have had the most sites proposed to the NPL over the last 5 years accounted for about 44 percent of the 164 sites proposed during that time. In addition to the states' overall perspective on the Superfund program, we interviewed officials in states that had no sites proposed in 10 years to determine what issues, if any, states had with supporting the listing of sites on the NPL. We also discussed the Superfund program with officials in the Association of State and Territorial Solid Waste Management Officials, the American Chemistry Council, the American Petroleum Institute, Resources for the Future, and the Environmental Law Institute.

To examine the status of the Superfund program, we reviewed the status of the 1,560 hazardous waste sites that have been proposed and/or listed on the NPL since 1980, the program's historical funding and expenditure data, and EPA's use of human capital resources to administer the Superfund program. We obtained actual dollar figures for fiscal years 1993 through 2002 from EPA and the President's Budget Appendixes for fiscal years 1995 through 2004. All program funding and expenditure data are presented in constant 2002 dollars. In our review of cleanup actions, we focused on remedial actions, which are generally costly and can take a long time to complete.

To identify the current cleanup status of NPL sites, we obtained data from EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)—a computerized inventory of potential hazardous waste sites that contains national site assessment, removal, remedial, enforcement, and financial information for over 44,000 sites. CERCLIS is a relational database system that uses client-server architecture (each computer or process on the network is either a client or server), installed on separate local area networks at EPA headquarters and all 10 regional Superfund program offices, and is used by more than 1,900 EPA staff. A September 30, 2002, report issued by EPA Inspector General

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**Appendix I**  
**Objectives, Scope, and Methodology**

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found that over 40 percent of CERCLIS data they reviewed were inaccurate or not adequately supported. The Inspector General's review focused on site actions, which it defined as activities that have taken place at a site, such as site inspections, removals, studies, potentially responsible parties searches, records of decisions, and remedial actions. As a result of its review, the Inspector General concluded that CERCLIS could not be relied upon to provide error-free data to system users.

For our review, we verified CERCLIS data related to NPL sites and their overall cleanup status as of the end of fiscal year 2002, but did not verify detailed site action data for all sites in CERCLIS. To address the reliability of CERCLIS data used in our review, we met with Inspector General staff to review the nature of the errors discussed in their report. According to Inspector General staff, the reliability of CERCLIS data was more of a concern at the action level rather than the site level. They indicated that using data related only to NPL sites and their cleanup status would decrease concerns about data reliability, especially if we confirmed the data with EPA regions. As a result, we checked certain CERCLIS data fields for all 1,560 proposed, final, or deleted NPL sites with staff in each region, as appropriate, including the sites' NPL status (whether the site was currently proposed to the NPL, final on the NPL, or had been deleted) and the status of cleanup at the site (whether the site was in the study and design phase, construction was under way, or construction was complete). Regions found no errors with sites' NPL status, but found errors in the status of cleanup for approximately 1 percent of NPL sites. We corrected the CERCLIS site-level data that we used for our analysis to reflect regions' changes. After taking these additional steps, we determined that the CERCLIS site-level data were sufficiently reliable for the purposes of this report. To present information regarding which participants were leading cleanup actions at sites, we used action-level data provided by EPA without further verification.

For our analysis of the historical cleanup status of sites on the NPL from fiscal years 1993 to 2002, we relied on fiscal-year-end status data provided by EPA. In addition, to identify construction complete sites that had been deleted, we used data provided by EPA that showed the deletion dates for NPL sites. We asked regions to verify the dates that sites transitioned to deleted status to the extent possible. However, to minimize the burden on EPA regional staff, we did not ask that they check each date against source documents.

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**Appendix I**  
**Objectives, Scope, and Methodology**

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To assess the NPL listing process, we reviewed EPA's minimum eligibility criteria, policies, guidance, and recent practices, and examined the extent of EPA's coordination with states. We analyzed available data on state hazardous waste cleanup programs, focusing on the coordination between federal and state programs to address current and future Superfund sites. We also discussed the NPL listing process and factors guiding EPA's selection of sites to be placed on the NPL with officials in EPA headquarters, EPA regions, and states.

To assess the program's future fiscal outlook, we examined the effect of the expiration of the taxing authority, identified and reviewed estimates of future funding requirements and workload projections, and examined EPA's current efforts to address future program needs. In addition, we discussed issues likely to affect the Superfund program in the near future, such as program funding and NPL-listing trends, with officials from EPA, states, industry associations, and environmental research groups. We did not examine future challenges associated with benefits, health risks, or cleanup standards.

We conducted our work between August 2002 and July 2003 in accordance with generally accepted government auditing standards.

# Comments from the Environmental Protection Agency

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 18 2003

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

John B. Stephenson  
Director, Natural Resources and Environment  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Stephenson:

Thank you for the opportunity to review and comment on the draft report entitled "Superfund Program - Current Status and Future Fiscal Challenges." We have reviewed the report and have the following comments.

- The conclusion of the report states that Superfund lacks indicators to fully measure program performance and implies that the Agency is waiting on the National Advisory Council for Environmental Policy and Technology (NACEPT) to suggest new measures. This conclusion is misleading, and in fact, EPA is actively working in this area concurrent with the NACEPT process. Two new Superfund environmental indicators were implemented during FY 2003: human exposures under control and migration of contaminated ground water under control. Baselines for these indicators were established during FY 2002 and targets were developed for FY 2003. The proposed draft of the Agency strategic plan for FY 2004 through 2008 includes new measures related to the redevelopment of Superfund sites following cleanup. We expect these measures to be in place during FY 2004. Finally, we are continuing to develop measures to assess human health and environmental exposure reduction progress at various points of the pipeline. The Agency has worked closely with the NACEPT subgroup, exchanging ideas and soliciting comments on proposed performance measures for the program.
- The GAO report discusses at length the potential impact on the program of the declining Superfund Trust Fund balance. To date however, annual appropriations for the program have remained in the \$1.3 to \$1.5 billion range, and have been largely independent of the Trust Fund balance. The report points to a decrease in annual program expenditures of \$255 million from fiscal years 1999 through 2002, but does not acknowledge that this followed a \$100 million reduction to the Superfund enacted appropriation during FY 2000 and subsequent years.
- The report speculates on a potential reduction in potential responsible party (PRP) involvement in funding or performing cleanups at National Priorities List (NPL) sites,

See comment 1.

See comment 2.

See comment 3.

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**Appendix II**  
**Comments from the Environmental**  
**Protection Agency**

and further speculates that this could lead to a request for additional resources to finance the program. To date, PRP involvement in the program remains strong. PRP's agreed to perform over 70% of the construction project starts during FY 2002. The total value of PRP commitments since the inception of the program exceeds \$20 billion.

Now on p. 16.

See comment 4.

- Figure 6 (page 17) of the report represents the number of sites at various stages of program activity from 1993 to the present. As the report points out, the number of sites in the construction underway phase remained relatively steady. The report text draws no conclusion regarding this measure; however, the reader could infer that the resource demand associated with construction also remains relatively stable. What is not reflected in the figure, but is an important fact in the status of the program, is the backlog of unfunded projects that are ready to begin construction, as well as the changing nature of the projects underway in FY 2003 versus FY 1993. The projects currently in, or about to enter, the construction phase of the program tend to be larger, more complex and more expensive than those of 5 to 10 years ago. This dynamic is creating a significant challenge for the program and led to the Administration's decision to request a \$150 million increase for Superfund construction in the FY 2004 President's Budget request.

Now on p. 20.

See comment 5.

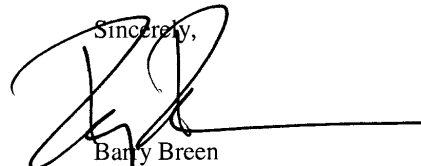
- The comment on page 21 of the report -- that many of the EPA regional and State officials interviewed for the report considered the NPL a last resort for sites that cannot be addressed under other programs -- does not accurately reflect Agency policy. EPA believes that the NPL is one of a number of options for cleaning up sites and that the regions should evaluate all reasonable options and select the one which best meets the objectives for the site.

Now on p. 23.

See comment 6.

- The comment on page 25 of the report states that "Officials in one region, for example, told us that the proportion of responsible party-led remedial actions in their region had decreased over the last ten years from about 70 percent to about 50 percent currently." EPA, however, reports this percentage on a national rather than a Regional basis; so, a decrease in one Region may be offset by an increase in another Region.

If you have any questions about these comments, please contact Paul Nadeau at (703) 603-8794 or Johnsie Webster, OSWER Audit Liaison, at (202) 566-1912.

Sincerely,  
  
 Barry Breen  
 Acting Assistant Administrator

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**Appendix II**  
**Comments from the Environmental**  
**Protection Agency**

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The following are GAO's comments on the EPA letter dated July 18, 2003.

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**GAO Comments**

1. We revised this report to include the agency's recent implementation of environmental indicators.
2. This report presents total appropriations to the program from fiscal year 1993 to 2002 in constant 2002 dollars. This report draws no conclusions about connections between the Superfund trust fund balance and total annual appropriations.
3. We revised this report to include the agency's statement regarding the value of responsible party commitments since the inception of the program.
4. We included the agency's statements regarding the backlog of unfunded projects, the changing nature of the projects under way, and the increased request for Superfund construction funding in this report.
5. We revised this report to reflect EPA headquarters' position on the proper use of the NPL.
6. We acknowledge that EPA currently reports responsible party participation in cleanups on a national rather than a regional basis. As this report states, officials in 7 of the 10 EPA regions have either observed an increase in the number of sites without viable responsible parties or expect such an increase in the future. The comment indicated by EPA functions as an example in this report.



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# **EXHIBIT 5**



**U.S. Environmental Protection Agency – November 2005**  
**Compliance and Enforcement National Priority:**  
**Financial Responsibility under Environmental Laws**

The United States Environmental Protection Agency (EPA) Office of Enforcement and Compliance Assistance (OECA) established six national priorities for federal fiscal years (FY) 2005 through 2007, and then added financial responsibility as a national priority for FY 2006 through 2007. OECA and the EPA's 10 Regions will make the following issues priorities for monitoring, compliance assistance, enforcement, and clean-up actions.

1. Clean Air Act: Air Toxics
2. Clean Air Act: Prevention of Significant Deterioration and New Source Review
3. Tribal
4. Clean Water Act: Wet Weather, including:
  - Concentrated Animal Feeding Operations
  - Combined Sewer Overflows
  - Sanitary Sewer Overflows
  - Storm Water
5. Resource Conservation and Recovery Act: Mineral Processing
6. Petroleum Refining
7. Financial Responsibility Under Environmental Laws

**Background**

Certain environmental laws carry financial responsibility requirements to ensure that adequate funds are available to address closure and cleanup of facilities or sites that handle hazardous wastes, hazardous substances, toxic materials, or other pollutants as well as the clean-up of those materials so they do not contaminate soils, groundwater, surface waters and the air. These requirements protect public health and the environment by promoting the proper and safe handling of hazardous materials and protecting against a liable party defaulting on closure or clean-up obligations. Inadequate or lack of financial responsibility can result in EPA or State governments (and ultimately the tax payer), funding Resource Conservation and Recovery Act (RCRA) closure and post-closure activities, RCRA corrective actions and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly known as Superfund) cleanups.

Financial Responsibility was selected as a national enforcement and compliance priority for the FY 2006-2007 period because it met the selection criteria: (1) increased national attention to this issue could lead to significant human health and/or environmental benefits; (2) there were patterns of noncompliance in this area; and (3) EPA is well suited to take action in this strategy area.

The principle goal of the Financial Responsibility national priority is to ensure that human health and the environment is protected by: (1) addressing noncompliance with the financial responsibility requirements under the federal environmental laws, (2) optimizing the financial safeguards under the federal environmental laws, and (3) optimizing EPA's resources. As each environmental law's financial responsibility requirements are unique the Agency will likely take a different approach under this priority to each financial responsibility program in order to

achieve the overall goal of this priority

As with the other national enforcement priorities, a strategy has been developed to ensure that EPA meets its goals. The strategy describes how the Agency will address the human health and environmental problems associated with failure to comply with financial responsibility requirements under the federal environmental laws. Through the strategy, the Agency is: (1) defining enforcement goals for several environmental laws; (2) establishing how we will measure our accomplishments in pursuit of these goals; (3) identifying what compliance tools are appropriate to reach the goals; (4) developing a plan to maintain compliance with the financial responsibility requirements once the strategy's goals have been met; and (5) assessing the resources needed to reach the identified goals.

When developing the strategy, EPA reviewed the financial responsibility requirements under the environmental laws and concluded that there are two basic groups that comprise the regulated population for purposes of financial responsibility. It is important to identify the distinction between the two groups. One group is comprised of those entities presently required to provide financial responsibility in advance of closing their operations. A notable example of this type of group is hazardous waste treatment, storage, or disposal facilities (TSDs) subject to the financial responsibility requirements for closure and post-closure under RCRA. The other group is comprised of those facilities where there have already been releases, and the entities are responsible for cleaning up the contamination. In this situation, for example, potentially responsible parties (PRPs) under Superfund would be required to provide financial assurance for that response action under the Consent Decree.

### **Environmental Problem**

Having the financial wherewithal to perform closure and/or cleanup is critical to protecting human health and the environment from toxic and hazardous waste and substances that are polluting the land, air, and water. The financial responsibility requirements achieve this protection by: (1) promoting the proper handling of hazardous and toxic, waste and substances, (2) ensuring that funds will be available to address contamination; (3) preventing the shifting of cleanup costs from the responsible party to the tax payer or other parties; and (4) making facilities and land available to the public for reuse.

OECA is concerned that entities are not providing adequate financial responsibility in accordance with their obligations under federal environmental laws. Recent studies and inquiries by the EPA Office of Inspector General and the Government Accountability Office have noted issues regarding compliance with the financial responsibility requirements under RCRA closure/post-closure, RCRA corrective action, CERCLA cleanups and SDWA UIC program. Also, ongoing EPA Regional assessments of owner/operators compliance with RCRA Subtitle C closure and post-closure financial responsibility requirements, for example, have identified a wide range of violations, e.g., inadequate financial mechanisms, failure to update annually inflationary increase for cost estimates. These violations place the public at risk because of the potential financial inability to close or clean-up the site.

### **Strategy Goal**

The strategy's goal is to ensure that EPA has optimized its financial safeguards under the existing

financial responsibility requirements through compliance assistance, compliance monitoring, and enforcement. To achieve this goal, the strategy establishes specific sub-goals to be accomplished by the end of FY 2007.

**Sub-goal 1: RCRA Subtitle C Closure/Post-Closure** – Optimize the financial safeguards under RCRA, as well as EPA's limited resources, by ensuring that by FY 2007, 25% of TSDs within the targeted universe are in compliance or on the path to compliance with their financial responsibility obligations under RCRA Subtitle C closure and post-closure.

**Sub-goal 2: RCRA Corrective Action Goal** – By the end of FY 2007, optimize EPA's protection against the risk of default by owners/operators of TSD facilities on their corrective action obligations by assessing and monitoring financial assurance compliance at 35% of the targeted universe of facilities. EPA's focus will be on facilities with significant corrective action work remaining.

**Sub-goal 3: CERCLA** – Optimize EPA's protection against the risk of default by PRPs on their cleanup obligations by assessing and monitoring compliance with financial assurance requirements at 90% of the targeted universe. EPA's focus will be on situations where there is a financial assurance commitment for significant cleanup work. EPA will also be ensuring, wherever appropriate, financial assurance requirements are included in new CERCLA enforcement agreements requiring PRP cleanup work.

**Sub-goal 4: TSCA** -- Optimize the financial safeguards under TSCA as well as EPA's resources, by ensuring that by FY 2007, 75% of the owners and operators of PCB commercial storage and/or disposal facilities within the targeted universe are in compliance or on a path to compliance with their financial responsibility obligations.

**Sub-goal 5: RCRA Subtitle I (Underground Storage Tanks) and SDWA UIC Program** -- Evaluate through discussions, scoping projects and information gathering whether the Safe Drinking Water Act (SDWA) and RCRA Subtitle I in FY 2006 are candidates for inclusion in the financial responsibility national priority.

**Sub-goal 7: Capacity Building** – Through the development of tools, guidance and training, EPA will engage in Regional and State capacity building in the area of compliance monitoring, and enforcement for financial responsibility requirements..

## **Performance Measurement**

The ultimate goal of this strategy is to ensure that the financial responsibility requirements under existing financial assurance requirements are met in order to protect human health and the environment. As the sub-goals above are achieved, there will be increased compliance with the financial responsibility requirements. OECA and the Regions will be establishing baseline compliance status of the targeted universes under RCRA and CERCLA; tracking compliance assistance; and engaging in compliance assurance and enforcement activities. OECA will also explore ways to measure positive changes in the behavior in the targeted universes resulting from enforcement and compliance activities. As concerns with financial responsibility are addressed and progress is measured, EPA will evaluate whether or not this area of the law will be returned to core program or remain a national priority for FY 2008 to FY 2011.

## **EXHIBIT 6**



OFFICE OF INSPECTOR GENERAL

*Catalyst for Improving the Environment*

## **Evaluation Report**

# **Superfund's Board of Directors Needs to Evaluate Actions to Improve the Superfund Program**

**Report No. 2007-P-00029**

**August 1, 2007**



**Report Contributors:**

Carolyn Copper  
Tina Lovingood  
Chad Kincheloe  
Steve Hanna  
Anne Emory  
Jayne Lilienfeld-Jones  
Mike Wagg

## **Abbreviations**

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	U.S. Environmental Protection Agency
FY	Fiscal Year
NPL	National Priorities List
OECA	Office of Enforcement and Compliance Assurance
OIG	Office of Inspector General
OSWER	Office of Solid Waste and Emergency Response
RCRA	Resource Conservation and Recovery Act
TSD	Treatment Storage and Disposal Facility



**U.S. Environmental Protection Agency  
Office of Inspector General**

2007-P-00029  
August 1, 2007

# At a Glance

*Catalyst for Improving the Environment*

## Why We Did This Review

We evaluated the U.S. Environmental Protection Agency's (EPA's) progress in responding to three recommendations from its 2004 study of the Superfund program (see below). The study recommended that EPA determine if Resource Conservation and Recovery Act (RCRA) facilities were causing a burden on the Superfund program. We also evaluated EPA's progress in responding to an Office of Inspector General recommendation on RCRA financial assurance.

## Background

In April 2004, EPA released a study entitled *Superfund: Building on the Past, Looking to the Future* (the *Study*). It was requested by then Acting Deputy EPA Administrator Stephen Johnson. The final report made 102 recommendations for improving the Superfund program. In response, the Acting Deputy EPA Administrator created a Superfund Board of Directors (the Board). Its role was to prepare, coordinate, and execute action plans to address the report's recommendations.

**For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.**

**To view the full report, click on the following link:**

[www.epa.gov/oig/reports/2007/20070801-2007-P-00029.pdf](http://www.epa.gov/oig/reports/2007/20070801-2007-P-00029.pdf)

## ***Superfund's Board of Directors Needs to Evaluate Actions to Improve the Superfund Program***

### **What We Found**

We found that EPA completed its work to determine the financial impact of RCRA-regulated facilities on the Superfund program. The Agency is still assessing the financial impacts of non-RCRA facilities on the Superfund program. EPA also responded to Office of Inspector General recommendations on RCRA financial assurance. However, we found that some of EPA's planned actions to address its *Study* recommendations were different than the actions recommended.

### **What We Recommend**

We recommend that the Board review a sample of the implemented *Study* recommendations to confirm that the actions taken were complete and responsive to the original *Study* recommendation(s).



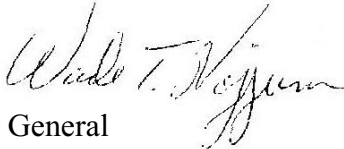
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
WASHINGTON, D.C. 20460

OFFICE OF  
INSPECTOR GENERAL

August 1, 2007

**MEMORANDUM**

**SUBJECT:** Superfund's Board of Directors Needs to Evaluate Actions to Improve the Superfund Program  
Report No. 2007-P-00029

**FROM:** Wade T. Najjum   
Assistant Inspector General  
Office of Program Evaluation

**TO:** Susan Parker Bodine  
Assistant Administrator  
Office of Solid Waste and Emergency Response

Granta Nakayama  
Assistant Administrator  
Office of Enforcement and Compliance Assurance

This is our report on the subject evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. The OIG responded to the Agency's draft report comments by making changes to the report and providing responses to EPA, as appropriate. This report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established resolution procedures.

The estimated cost of this report – calculated by multiplying the project's staff days by the applicable daily full cost billing rates in effect at the time – is \$246,015.

**Action Required**

In accordance with EPA Manual 2750, you are required to provide a written response to this report within 90 calendar days. The Office of Solid Waste and Emergency Response should coordinate EPA comments on this report and provide a consolidated response. Your response

should include a corrective action plan including milestone dates. Please email an electronic version of your response that complies with Section 508 of the Rehabilitation Act to Tina Lovingood at [lovingood.tina@epa.gov](mailto:lovingood.tina@epa.gov). We have no objections to the further release of this report to the public. This report will be available at <http://www.epa.gov/oig>.

If you or your staff have any questions regarding this report, please contact Carolyn Copper, Director for Program Evaluation, Hazardous Waste Issues, at 202-566-0829 or [copper.carolyn@epa.gov](mailto:copper.carolyn@epa.gov); or Tina Lovingood, Project Manager, at 202-566-2906 or [lovingood.tina@epa.gov](mailto:lovingood.tina@epa.gov).

## Purpose

The purpose of this evaluation was to follow up on the U.S. Environmental Protection Agency's (EPA's) progress in responding to recommendations in its April 2004 report on the Superfund program, *Superfund: Building on the Past, Looking to the Future*, known generally as the *120-Day Study*. Our evaluation followed up on three of the report's recommendations:

- ❑ **Recommendation 10:** "OSWER [Office of Solid Waste and Emergency Response] should evaluate the history of NPL [National Priorities List] listings and removal actions to determine what percent[age] were RCRA [Resource Conservation and Recovery Act] treatment, storage, and disposal facilities [TSDs] or hazardous waste generators and to what extent these facilities present a continuing burden to the Superfund program."
- ❑ **Recommendation 11:** "If the evaluation confirms a high correlation with RCRA-regulated facilities, OSWER and OECA [Office of Enforcement and Compliance Assurance] should examine different approaches to financial assurance under the RCRA program to reduce the likelihood of RCRA-regulated facilities becoming part of the future Superfund universe."
- ❑ **Recommendation 12:** "For facilities not covered under RCRA, OSWER should study whether promulgating new regulations under CERCLA's [Comprehensive Environmental Response, Compensation, and Liability Act's] broad financial assurance authorities could reduce the future needs of the Superfund program."

We also followed up on Agency progress in responding to OIG Recommendation 4.1 from our September 2005 report on RCRA financial assurance.<sup>1</sup> The recommendation is closely related to Recommendation 11 in the *120-Day Study*. We recommended that OSWER develop and communicate the EPA plan to address concerns with RCRA financial assurance regulations.

## Background

The *120-Day Study* (the *Study*) was an EPA-conducted review of the Superfund program. The overall objective of the *Study* was to identify ways to make the Superfund program more efficient so that the Agency could fund more cleanups with current resources. The *Study* was requested by then Acting Deputy EPA Administrator Stephen Johnson. The final report made 102 recommendations for improving the Superfund program. In response to the *Study*, the Acting Deputy EPA Administrator created the Superfund Board of Directors (the Board). The Board's role is to prepare, coordinate, and execute action plans to address the report's recommendations. The Assistant Administrators for OSWER and OECA co-chair the Board.

## Scope and Methodology

We addressed the following questions. The questions address work that the Agency was to complete in responding to *Study* Recommendations 10, 11, and 12.

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<sup>1</sup> *Continued EPA Leadership Will Support State Needs for Information and Guidance on RCRA Financial Assurance*, Report Number 2005-P-00026, September 26, 2005.

1. What progress and findings has the Agency made in compiling and analyzing information on RCRA referrals to the Superfund program, to include those that have become NPL sites? (Recommendation 10)
2. Where it has occurred, what are the causes for RCRA referrals to the Superfund program? Do causes include inadequacies in RCRA financial assurance regulations, and what is the status of EPA actions to correct these inadequacies? (Recommendation 11 from the *Study* and Recommendation 4.1 from the September 2005 OIG RCRA financial assurance report)
3. What is the origin (e.g., non-RCRA Brownfield sites, previously unregulated private party abandoned sites) of the sites on the NPL and what proportion is represented by RCRA referrals? (Recommendation 12)

We performed preliminary research from June 2006 to November 2006. We applied *Government Auditing Standards*, issued by the Comptroller General of the United States, to areas within the scope of this review. We evaluated EPA's management controls over completing recommendations 10, 11, and 12. We also evaluated EPA's reporting of selected other recommendations. To address our objectives, we reviewed and analyzed financial assurance regulations, documents, reports, and data. We conducted our work at EPA Headquarters.

### ***Prior Evaluation Coverage***

The OIG issued a report entitled *Continued EPA Leadership Will Support State Needs for Information and Guidance on RCRA Financial Assurance*, Report Number 2005-P-00026, on September 26, 2005. This report stated that:

- EPA does not have adequate data on financial assurance at hazardous waste TSDs regulated under RCRA.
- State and EPA financial assurance officials need to improve communication mechanisms to share financial assurance information.
- EPA needs to update guidance and needs to uniformly oversee State programs.
- States and EPA staff expressed concerns with aspects of the financial test and other financial assurance mechanisms.

The OIG recommended (among other actions) that OSWER develop and communicate EPA's plan for addressing concerns with financial assurance. EPA generally agreed with the OIG recommendations. In October 2006, EPA provided us its plan.

### ***Noteworthy Achievements***

EPA has begun implementing its financial assurance plan. And, according to EPA, it has accomplished 89 percent of the *Study* recommendations.<sup>2</sup>

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<sup>2</sup> According to the Agency it has completed 89 percent of 108 *Study* recommendations as of 1/31/07. Its action plan contains 102 recommendations from the *Study*, including the 102 recommendations, and 6 additional "optional" recommendations.

## Agency Progress in Addressing Recommendation 10

The Agency has completed its work on Recommendation 10. EPA evaluated the history of NPL listings and removal actions to identify RCRA facilities and the extent to which these facilities pose a continuing burden to the Superfund program. To determine this burden, OSWER staff analyzed Superfund expenditure data from Fiscal Year (FY) 1981 through FY 2005.

The staff estimated that RCRA facilities account for 27 percent, or about \$2.8 billion, of the NPL site cleanup costs between FY 1981 and FY 2005. OSWER staff stated that these expenditures are “not insignificant.” The staff also studied the history of 40 TSDs proposed for listing to the NPL after 1990.<sup>3</sup> The staff wanted to determine the reasons for proposal and whether similar types of facilities would be proposed to the NPL in the future. The staff concluded that the environmental damage at most of these sites generally occurred before EPA began to regulate TSDs. The sites’ proposed listing to the NPL was not due to the failure of the RCRA regulatory program. Rather, the proposed sites were marginal RCRA TSD facilities that were forced to cease operations due to their inability to comply with RCRA requirements.

During fieldwork, we found that EPA had not completed the portion of Recommendation 10 that directed EPA to analyze the history of Superfund removal actions to determine what percentage were RCRA TSDs and to what extent these sites present a continuing burden to the Superfund program. That EPA had not performed this analysis may have been due in part to the fact that the last three action plans submitted by the Board (March and June 2006, and January 2007) did not contain the actual language from Recommendation 10 to conduct this work. Subsequent to issuing our draft report, the Agency provided documentation showing it had modified Recommendation 10 in its tracking system to contain the language. The Agency also told us that it did not interpret Recommendation 10 to require a separate analysis of removal action costs. Despite that, and in response to OIG requests, EPA provided documentation to show that it had conducted analysis of the potential costs of Superfund removal actions at TSDs. The Agency concluded that removal action costs were small in comparison to NPL costs, and that its work was complete on Recommendation 10.

## Agency Progress in Addressing Recommendation 11

EPA’s work on Recommendation 11 is complete. Recommendation 11 stated that if EPA found a high correlation with RCRA-regulated facilities, EPA should examine approaches to RCRA financial assurance to reduce the likelihood of the facilities becoming future Superfund sites. To satisfy Recommendation 11, and OIG recommendation 4.1 in the 2005 OIG report on RCRA financial assurance, OSWER provided the OIG with a detailed financial assurance action plan. OSWER’s plan comprehensively addresses the OIG recommendation and will be used by EPA to perform followup activities to address RCRA financial assurance for Recommendation 11.

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<sup>3</sup> EPA selected the 40 sites because it believed these facilities would be good predictors of the types of RCRA facilities that could be listed on the NPL in the future. By 1990, most of the significant 1984 Hazardous and Solid Waste Amendments regulations were in place. The Superfund deferrals policy, which governs the types of RCRA facilities proposed for the NPL, has not changed significantly since 1990.



## Agency Progress in Addressing Recommendation 12

The Agency is working to complete Recommendation 12. This recommendation stated that, for non-RCRA facilities, EPA should study whether new regulations under CERCLA's financial assurance authorities could reduce future Superfund resource needs. OSWER staff concluded that obtaining accurate information for NPL sites would be resource-intensive. OSWER's estimate to complete this recommendation is December 2007.

A necessary first step to address this recommendation would be to examine the origin and history of Superfund sites. We attempted to do so by reviewing internal databases. However, without further review of EPA files, the search failed to provide the information needed to answer our objective. Therefore, we were unable to independently determine site origins.

## Superfund Board of Directors Oversight of Action on *120-Day Study* Recommendations

We found that the Superfund Board of Directors had management controls to implement and complete most *Study* recommendations. Some of the controls include a system that tracks the progress on the recommendations and weekly management review of the progress. The Office of Site Remediation and Technology Innovation (OSRTI) and OECA also include *Study* projects and the completion milestones in performance standards for senior managers, where appropriate.

However, during fieldwork, we found that the Board lacked management controls<sup>4</sup> to ensure implementing and completing the *Study* recommendations. Management controls will ensure that milestones are met or updated on a regular basis and completed work addresses the recommendations.

The Board issued action plans for responding to the *Study* recommendations in September 2005, and March and June 2006. The plans included completion dates, lead offices, and status of actions for each recommendation. During our fieldwork, the completion dates for Recommendations 11 and 12 in the June 2006 action plan had passed. We brought this point to the attention of a Board representative and asked how the Board monitors planned completion dates, follows up on missed completion dates, and when the action plan would be updated next. We also asked for updated completion dates for Recommendations 11 and 12. The response stated that the Board uses action plan updates to track the progress in completing the recommendations and that, at that time, 82 percent of the recommendations had been completed. We were told that changes in planned completion dates should be expected over time. We were also told that the next update of the action plan would coincide with the next Board meeting. The Board believed Recommendation 11 was complete and that Recommendation 12 would not be completed until March 2007 (and as of this report date, December 2007). OSWER and

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<sup>4</sup> Examples of management controls include actions such as (1) verifying that the action plans correctly state the *Study* recommendations, (2) regular progress updates on completing the action plans, (3) updating action plan milestones when needed, (4) briefings to the Board on the specific actions or analysis taken to complete the recommendations, and (5) confirmation of the completeness and responsiveness of the actions to the original *Study* recommendation(s).

OECA also told us EPA would update the action plan to correctly state Recommendation 10. In January 2007, OSWER staff provided us an updated action plan. However, the recommendation language had not been corrected.

After we issued our draft report, the Agency provided documentation showing it had modified Recommendation 10 language in its tracking system. It also provided details on its “internal checks and balances”, or controls for completing *Study* recommendations.

### ***Some Inconsistencies Between Agency Action Plans and Study Recommendations***

Because we initially found a difference between the way the Agency characterized Recommendation 10 in its action plans, and the way it appeared in the *Study*, we compared how the Agency characterized other *Study* recommendations. We found several instances in the Agency’s action plans where the recommendations were rephrased and key actions the Agency was supposed to take were omitted. Examples include recommendations 35, 48, 51, 52, 92, and 93. Rephrasing the *Study* recommendations can modify the intent of the recommendation, the Agency’s action, and the results obtained.

## **Recommendations**

We recommend the Superfund Board of Directors:

1. In coordination with appropriate lead offices, modify the *Study* Action Plan to correctly state Recommendation 10 as it appears in the final *Study*.
2. In fiscal year 2008, review a sample of completed actions on the *Study* recommendations to confirm that actions are complete and responsive to the original *Study* recommendation(s). The sample should include recommendations 35, 48, 51, 52, 92, and 93.

## **Agency Comments and OIG Evaluation**

The OIG made changes to the report based on the Agency’s comments where appropriate. Appendix A provides the full text of the Agency comments and OIG response.

The agency agreed with recommendation 1 and completed corrective action. We consider recommendation 1 closed in the Inspector General Operations and Reporting System. The agency provided comments to recommendation 2 but did not agree or disagree. We revised recommendation 2 to reflect the agency comments. In response to our final report, the Agency will need to comment on the revised recommendation 2. We consider recommendation 2 open and unresolved.

## ***Status of Recommendations and Potential Monetary Benefits***

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in \$000s)	
Rec. No.	Page No.	Subject	Status <sup>1</sup>	Action Official	Planned Completion Date	Claimed Amount	Agreed To Amount
1	5	In coordination with appropriate lead offices, modify the <i>Study</i> Action Plan to correctly state Recommendation 10 as it appears in the final <i>Study</i> .	C	Superfund Board of Directors	07/09/07		
2	5	In fiscal year 2008, review a sample of completed actions on the <i>Study</i> recommendations to confirm that the actions are complete and responsive to the original <i>Study</i> recommendation(s). The sample should include recommendations 35, 48, 51, 52, 92, and 93.	O	Superfund Board of Directors			

<sup>1</sup> O = recommendation is open with agreed-to corrective actions pending  
C = recommendation is closed with all agreed-to actions completed  
U = recommendation is undecided with resolution efforts in progress

**Appendix A**

***Agency Comments on Draft Report  
and OIG Evaluation***

May 21, 2006

**MEMORANDUM**

**SUBJECT:** Response to OIG Evaluation Report “Superfund’s Board of Directors Needs to Better Oversee Completing Superfund Improvements” (April 20, 2007)  
Assignment Number 2006-1413

**FROM:** Susan Parker Bodine/s/  
Assistant Administrator  
Office of Solid Waste and Emergency Response

Granta Nakayama/s/  
Assistant Administrator  
Office of Enforcement and Compliance Assurance

**TO:** Bill Roderick  
Acting Assistant Inspector General  
Office of the Inspector General

We appreciate the opportunity to respond to recommendations on your draft report “Superfund’s Board of Directors Needs to Better Oversee Completing Superfund Improvements.” This draft report was submitted to us on April 20, 2007. Comments were provided on an earlier draft of that report on January 19, 2007.

Several areas of concern with the report’s results and recommendations remain. First, we have concluded that the analyses called for in the 120-Day Study Recommendations 10 and 11 are complete. We have included removal actions in our evaluation; however, we believe that there is nothing to be gained from separating out costs associated with removal actions from other activities. In addition, the Superfund Board of Directors has been overseeing the completion of Superfund improvements. Specifically, the Board has been given progress updates on the 120-Day Study in briefings and board members use their existing management systems to oversee progress on implementing the 120 Day Study recommendations. Our specific responses to the OIG recommendations are included in the attachment.

Attachment

**Response to OIG Evaluation Report “Superfund’s Board of Directors Needs to Better  
Oversee Completing Superfund Improvements” (April 20, 2007)  
(Inserted into the table below by the OIG)**

<b>Table 1: EPA comments on OIG recommendations and OIG response</b>		
<b>OIG Recommendation</b>	<b>OSRE or OSRTI Response and/or Alternative</b>	<b>OIG Evaluation of Agency Comments</b>
<p>The Superfund Board of Directors in coordination with appropriate lead offices:</p> <p>1. Modify the <i>Study</i> Action Plan to correctly state Recommendation 10 as it appears in the final <i>Study</i>.</p>	<p>The 120 Day Study, SUPERFUND: Building on the Past, Looking to the Future (April 2004) and the OSWER 120-Day Study Action Plan (February 2005) have the same language regarding Recommendation 10. However, OSWER’s periodic 120-Day Study Action Plan Status Reports do not. We are planning to develop another status report for a Superfund Board of Director’s meeting in June and we will ensure the language in the next 120 Day Study status report contains the same language that was used in the original 120 Day Study regarding Recommendation 10.</p>	<p>EPA agreed and completed this action. We are closing this recommendation upon final report issuance in the Inspector General Operations and Reporting System.</p>
<p>The Superfund Board of Directors in coordination with appropriate lead offices:</p> <p>2. Develop new milestones to complete work on Recommendation 10 and 11; specifically, the Board should complete the evaluation of the history of Superfund removal actions that have occurred at RCRA facilities.</p>	<p>The analysis conducted in response to Recommendations 10 and 11 of the 120-Day Study is complete. Therefore, we see no reason to update the analysis, schedules, or milestones.</p> <p>Specifically, Recommendation 10 of the 120-Day Study asked OSWER to “evaluate the history of National Priorities List (NPL) listings and removal actions to determine what percent were RCRA treatment, storage, and disposal facilities (TSDs) or hazardous waste generators and to what extent these facilities present a continuing burden to the Superfund program.” OSWER evaluated sites in two categories: Non-NPL and NPL. The historical record of Superfund removal actions have been assessed as part of both of these categories. OSWER concluded that 2.3% of the</p>	<p>The Agency disagreed with our recommendation. It had interpreted the <i>Study</i> differently than the OIG. The Agency could have verified the intent of the <i>Study</i> recommendation with the <i>Study</i> leader. However, to address our concerns, the Agency provided some documentation to show that it had conducted an analysis of removal action obligations, as expenditure data were not available. Although the obligations data has limited applicability, the Agency said it is the best data they could provide. We are withdrawing this recommendation from the final report.</p>

**Table 1: EPA comments on OIG recommendations and OIG response**

<b>OIG Recommendation</b>	<b>OSRE or OSRTI Response and/or Alternative</b>	<b>OIG Evaluation of Agency Comments</b>
	<p>total universe of Non-NPL sites (which includes non-NPL removal sites) were potential TSDs. The costs associated with these potential TSDs were \$111 million, or 5.6% of the total Superfund site-specific expenditures at Non-NPL sites. In addition, EPA found that 5.1% of Non-NPL sites were identified as hazardous waste generators; these generators represent 9.5% of the total Superfund site-specific expenditures at Non-NPL sites. We note that dollar figures in the Non-NPL category include all site-specific expenditures at all Non-NPL sites where removal actions have occurred. Furthermore, as noted below, removal costs at sites proposed to, listed on, or deleted from the NPL were included as part of the analysis of the NPL category. Thus, OSWER has fully captured site information and all site-specific costs associated with Superfund sites where removal actions took place.</p> <p>The analysis of site-specific expenditures for NPL sites also included both remedial and removal actions. Specifically, our analysis determined that 143 potential TSDs were NPL sites, or 9% of the universe of 1,562 final and deleted NPL sites. Superfund site-specific expenditures at these sites totaled \$1.03 billion, or 9.8% of the \$10.6 billion spent on NPL sites (FY05 expenditure figures). The analysis did not break out removal actions/costs within the NPL site summaries. This was not an omission. Our reading of Recommendation 10 was to identify the number of sites and costs associated with site-specific Superfund work. Site work is often</p>	

**Table 1: EPA comments on OIG recommendations and OIG response**

OIG Recommendation	OSRE or OSRTI Response and/or Alternative	OIG Evaluation of Agency Comments
	<p>conducted using a combination of both remedial and removal actions. Because remedial and removal actions are both used to support actions at NPL sites, distinguishing between them for NPL sites neither inform decisions on nor change conclusions drawn on the need for financial assurance. Moreover, combining remedial and removal actions for NPL sites provides for a more straightforward presentation of results.</p> <p>EPA did conduct a more detailed analysis of 40 RCRA TSDs that were listed or proposed for the NPL, but it did not conduct a comparable analysis of TSDs subject to removal actions (except where those facilities were within the NPL category). This more detailed analysis did not address non-NPL TSDs or hazardous waste generators that underwent Removal Actions, or hazardous waste generators proposed to, listed on, or deleted from the NPL. We noted this order of magnitude difference in expenditures:</p> <ul style="list-style-type: none"> <li>• The Superfund site-specific expenditures associated with potential RCRA TSDs and hazardous waste generators that became Non-NPL sites totaled <u>\$298 million</u> (combined);</li> <li>• The Superfund expenditures associated with potential former TSDs and hazardous waste generators that were proposed to, listed on, or deleted from the NPL totaled <u>\$2.84 billion</u> (combined).</li> </ul> <p>Given the much larger amount spent at</p>	



**Table 1: EPA comments on OIG recommendations and OIG response**

<b>OIG Recommendation</b>	<b>OSRE or OSRTI Response and/or Alternative</b>	<b>OIG Evaluation of Agency Comments</b>
	<p>NPL sites, we chose to focus on those sites in order to evaluate the most contaminated, costly group of TSD sites (i.e., the NPL TSD sites). We do not believe that analyzing an additional set of lower cost facilities would change our conclusion that the majority of these Superfund expenditures were used to address contamination that was historical (pre-RCRA) in nature.</p> <p>We believe that it makes more sense at this time to put our resources into implementing our financial assurance plan. For example, on March 30, 2007, the Office of Solid Waste and Emergency Response (OSWER) decided to initiate the Agency's Action Development Process (ADP) to determine whether regulatory changes need to be made to the current RCRA Subtitle C financial test regulations. By starting this process, we will be closely evaluating the current financial test. During the initial exploratory phase, we will develop and analyze a full range of options, including addressing the concerns that have been raised through implementation assistance.</p>	
<p>The Superfund Board of Directors in coordination with appropriate lead offices:</p> <p>3. Develop and implement management controls such as: a quarterly schedule to receive progress updates on the completion of the <i>Study</i> Action Plan,</p>	<p>As stated in previous correspondence, OSWER and the Office of Enforcement and Compliance Assurance (OECA), the Co-Chairs of the Superfund Board of Directors, disagree with the OIG's statement that the "Superfund Board of Directors lacks management controls to ensure implementation and completion of the 120-Day Study recommendations." Implementation of the 120-Day Study recommendations is built upon the</p>	<p>EPA disagrees with this recommendation, because the Agency believes it has internal checks and balances to assure accountability for <i>Study</i> recommendations. At the exit conference to discuss the draft report, the Director for the Assessment and Remediation Division, OSRTI, and the Deputy Director for the Office of Site Remediation and Enforcement and their staffs provided details on the "Internal checks and balances". Some</p>

**Table 1: EPA comments on OIG recommendations and OIG response**

<b>OIG Recommendation</b>	<b>OSRE or OSRTI Response and/or Alternative</b>	<b>OIG Evaluation of Agency Comments</b>
<p>and requirements to update action plan milestones when needed. Progress updates should include briefings to the Board on the specific actions or analysis taken to complete the recommendations as stated in the <i>Study</i>.</p>	<p>Agency's performance management and accountability systems. Responsibility for each recommendation rests with one or more Agency office with a single office designated as the lead. The Board and its Working Group (consisting of senior managers of the organizations represented by Board members) comprise the major Superfund resource stakeholders across the Agency. Internal checks and balances to assure accountability for Study recommendations are provided through the respective management chains of the Working Group and Board of Directors. The Board meets periodically and is briefed on progress against planned completion dates. As you have stated in the draft report, 82 percent of the 102 recommendations were completed by June 2006. A January 2007 Update (attached), that was reviewed by the Superfund Board of Directors during a briefing on 5 February, indicates that 89 percent of the recommendations were complete.</p>	<p>of the controls include a system that tracks the progress on the recommendations and weekly management review of the progress. OSRTI and OECA also include <i>Study</i> projects and the completion milestones in performance standards, where appropriate. Staff briefs management on progress so management can give appropriate direction. We are withdrawing this recommendation from the final report.</p>
<p>The Superfund Board of Directors in coordination with appropriate lead offices:</p> <p>4. Select a sample of completed actions on the <i>Study</i> recommendations to confirm that the actions are complete and responsive to the original <i>Study</i> recommendation(s). The sample should include the examples cited in the report.</p>	<p>We will present this recommendation to the Superfund Board of Directors at their next meeting in June 2007 and discuss how the Agency should approach this recommendation.</p>	<p>The Agency did not agree or disagree with the recommendation, but indicated that it will present the recommendation to the Superfund Board of Directors and discuss how the Agency should approach this recommendation. In our exit conference with the Agency, the Deputy Assistant Administrator for OECA told us that the Board had decided not to act on the OIG's recommendation, due to resource issues, until all the recommendations from the <i>Study</i> are completed. The Agency's January 31, 2007 action plan indicates that all but one recommendation will be completed at</p>

<b>Table 1: EPA comments on OIG recommendations and OIG response</b>		
<b>OIG Recommendation</b>	<b>OSRE or OSRTI Response and/or Alternative</b>	<b>OIG Evaluation of Agency Comments</b>
		the end of 2007. Therefore, we have modified the recommendation to address the Agency's resource concern. In the Agency response to the final report, the Agency will need to consider the revised recommendation, and develop an action plan, with completion milestones, for this recommendation.

**Appendix B**

***Distribution***

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Acting Inspector General

# **EXHIBIT 7**



# Enforcement Alert

Volume 6, Number 2

Office of Regulatory Enforcement

April 2003

## Financial Assurance Requirements: A Fundamental Compliance Obligation

### *Failure to Comply with Financial Assurance Requirements Puts Human Health and the Environment at Risk*

The Casmalia Resources Hazardous Waste Management Facility was a 252-acre commercial hazardous waste treatment, storage and disposal facility located in Santa Barbara County, Cali-

fornia. Between 1973 and 1989, the facility accepted approximately 5.6 billion pounds of waste in its landfills, ponds, shallow wells, disposal trenches, and treatment units. The owners and operators of the Casmalia facility did not provide sufficient funds to close the facility and care for the site. In 1991, they abandoned their efforts to properly close the facility and clean up the site, which subsequently became known as the Casmalia Resources Superfund Site. The U.S. Environmental Protection Agency (EPA) estimates that it will cost at least \$272 million to remediate this site. Casmalia is an example of how hazardous waste facilities' failure to adequately fulfill their financial assurance obligations can result in Superfund sites.

Given the importance of preventing situations like Casmalia, EPA is stepping up its enforcement of the Resource Conservation and Recovery Act (RCRA) financial assurance requirements that ensure that persons handling hazardous wastes have adequate funds to close facilities, clean up any releases of those wastes, and compensate others that are harmed by the release of hazardous wastes.

This *Enforcement Alert* focuses on the financial assurance requirements for RCRA hazardous waste facilities and highlights:

- Financial mechanisms available for complying with financial assurance requirements;
- Common violations of financial assurance requirements;
- Situations that may trigger an owner's or operator's duty to substitute the financial assurance mechanism; and
- Significant court decisions addressing financial assurance requirements.

### Financial Assurance Requirements for Hazardous Waste Facilities

Financial assurance requirements address the cost of closing a hazardous waste facility in accordance with RCRA Subtitle C requirements; the annual cost required for post-closure monitoring and maintenance; liability coverage for sudden and non-sudden accidental occurrences; and corrective action required at solid and hazardous waste management units. Financial assurance requirements under Subtitle C cover permitted and interim status facilities. Financial assurance is required under RCRA Section 3004(a) and (t), and implementing requirements are found at 40 C.F.R. Part 264, Subpart H (for permitted facilities) and at 40 C.F.R.

#### About

#### Enforcement Alert

*Enforcement Alert* is published periodically by the EPA's Office of Regulatory Enforcement, Office of Enforcement and Compliance Assurance to inform and educate the public and regulated community of important environmental enforcement issues, recent trends and significant enforcement actions.

This information should help the regulated community anticipate and prevent violations of federal environmental law that could otherwise lead to enforcement action. Reproduction and wide dissemination of this publication are encouraged. *For information on how you can receive this newsletter electronically, send an email to the editor.*

Director, Office of Regulatory  
Enforcement: Walker B. Smith

Editor: Virginia Bueno  
bueno.virginia@epa.gov

- Financial assurance requirements;



## Enforcement Alert



Part 265, Subpart H (for interim status facilities). Where EPA has authorized a state to operate a hazardous waste program in lieu of the federal program, that state imposes financial assurance regulations that are at least as stringent as the federal regulations. Owners or operators of facilities located in an authorized state are required to comply with such state-issued financial assurance requirements, which are subject to enforcement by the state and EPA.

**Closure and Post-Closure Requirements:** Owners or operators of hazardous waste facilities must provide financial assurance for closure and post-closure care. They can accomplish this through a trust fund, surety bond, letter of credit, insurance policy, or financial test and corporate guarantee. Owners or operators must maintain financial assurance until the required closure and post-closure tasks are completed, a certification of completion has been submitted to the appropriate agency, and the owner or operator has received a notification from that agency indicating that financial assurance is no longer required.

**Liability Requirements for Accidents:** Owners or operators of hazardous waste facilities must be able to compensate third parties for bodily injury or property damage that might result from the accidental release of hazardous wastes. All hazardous waste facilities must demonstrate liability coverage for such sudden accidents. Hazardous waste facilities with land-based units such as landfills must also demonstrate liability coverage for non-sudden accidents, defined as events that take place over time and involve continuous or repeated exposure to hazardous waste.

Owners or operators may provide financial assurance for liability cover-

age through a trust fund, surety bond, letter of credit, insurance policy, or financial test and corporate guarantee. Owners or operators must maintain financial assurance until closure is completed, a certification of completion has been submitted to the appropriate agency, and the owner or operator has received a notification from the appropriate agency indicating that financial assurance is no longer required. Liabil-

ity coverage is generally not required during the post-closure period.

### Situations Triggering Need to Replace Financial Mechanisms

EPA's regulations require owners or operators of hazardous waste facilities



## Financial Mechanisms

- A **trust fund** allows an owner or operator to set aside money in increments according to a phased-in schedule (known as the pay-in period). At the end of the pay-in period, the facility will have enough money set aside to cover its financial assurance costs, and will have funds specifically earmarked for closure, post-closure care, and liability requirements.
- A **surety bond** is a guarantee by a surety company that the owner's or operator's financial assurance obligations will be fulfilled. If the owner or operator fails to pay or perform as specified in a bond, the surety company will become liable.
- A **letter of credit** is a guarantee by a financial institution that covers the owner's or operator's closure or post-closure care obligations. The appropriate agency may draw on the letter of credit if the owner or operator fails to perform.
- An **insurance policy** guarantees that funds will be available for closure or post-closure care in the event that the owner or operator fails to perform. Once closure or post-closure care begins, the insurer will be responsible for paying out funds, up to the face value of the policy, as directed by the appropriate agency.
- An owner or operator with the financial assets to absorb the costs of closure, post-closure care, and liability obligations may comply with financial assurance requirements by using the **financial test**. EPA's regulations set out the criteria that an owner or operator must meet to pass the financial test.
- An owner or operator may arrange a **corporate guarantee** by demonstrating that its corporate parent, grandparent, or sibling, or other firm with which it has a substantial business relationship, meets the financial test requirements on the owner's or operator's behalf. The corporate guarantor is required to perform closure or post-closure care, or to establish a trust fund, where the owner or operator fails to perform.



## Enforcement Alert



to replace the facility's financial mechanisms in certain situations. The most common situations, which involve the incapacity of the institution issuing the financial mechanism, are discussed below:

- If the institution issuing a **letter of credit** declares bankruptcy or has its issuing authority suspended or revoked by the relevant state or federal agency, the owner or operator of the hazardous waste facility has 60 days to establish other financial assurance.
- The financial institution issuing a **surety bond** must be listed as an acceptable surety of federal bonds in Circular 570 of the U.S. Department of the Treasury. If the surety company en-

ters bankruptcy or has its authority to issue surety bonds suspended or revoked by Treasury, the owner or operator of the hazardous waste facility has 60 days to establish other financial assurance. Copies of Circular 570 and interim changes may be obtained directly from the Government Printing Office by calling (202) 512-1800. Interim changes are published in the Federal Register and at <http://www.fms.treas.gov/c570/c570.html> as they occur.

- An **insurance company** must be licensed to transact the business of insurance, or must be eligible to provide insurance as an excess or surplus lines insurer, in one or more states. If the insurance company becomes bankrupt or has its authority to issue insurance suspended or revoked, the owner or

operator of the hazardous waste facility has 60 days to establish other liability coverage.

- An owner or operator using the **financial test** must send updated information to the appropriate agency within 90 days after the close of each fiscal year to provide alternate financial assurance.

### Significant Court Decisions Address Financial Assurance Requirements

Owners and operators of RCRA hazardous waste facilities that fail to obtain or maintain acceptable financial assurance are in violation of the law. EPA and authorized states have taken enforcement actions against persons and entities not in compliance with financial assurance requirements.

In *Safety-Kleen, Inc. (Pinewood) v. Wyche*, 274 F. 3d 846 (4th Cir. 2001), the court held that financial assurance requirements are exempt from the automatic stay provisions under the Bankruptcy Act. The court held that South Carolina, a state authorized to run the program under RCRA, can issue and enforce orders to force companies to comply with financial assurance requirements during bankruptcy. The court concluded that the RCRA financial assurance requirements fall within the government's "regulatory exception" from the bankruptcy automatic stay provision because the financial assurance regulations serve the primary purpose of deterring environmental misconduct. "Stated more positively, the [financial assurance] regulations serve to promote environmental safety in the design and operation of hazardous waste facilities. The incentive for safety is obvious: the availability and cost of a bond will be tied directly to the structural integrity of a facility and the sound-

### Common Violations of the Financial Assurance Requirements

- Failure to obtain financial assurance.
- Failure to substitute financial assurance based on the issuing financial institution's incapacity, through, for example, bankruptcy, rehabilitation, or removal from the U.S. Department of Treasury's Circular 570.
- Failure to maintain current cost estimates for closure and post-closure care.
- Failure to adjust closure or post-closure care costs for inflation. An owner or operator is required to adjust the estimated closure or post-closure care costs for inflation 60 days prior to the anniversary date of the establishment of the financial mechanism.
- Failure to adjust financial assurance coverage within 60 days after an increase in the adjustment to closure or post-closure care cost estimates.
- Failure to notify the appropriate agency, within 10 days, of the commencement of a bankruptcy proceeding naming the owner or operator as debtor.
- Failure of an owner or operator relying on the financial test to: (1) update the facility's financial information annually; (2) notify the appropriate agency of the owner's or operator's intent to obtain alternate financial assurance; or (3) obtain alternate financial assurance within 90 days after the end of the fiscal year in which the owner or operator no longer meets the financial test requirements.





United States  
Environmental Protection Agency  
Office of Regulatory Enforcement  
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Washington, D.C. 20460

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ness of its day-to-day operations.” *Id.*  
at 866.

In *U.S. v. Power Engineering Co.*,  
191 F.3d 1224 (10th Cir. 1999), the  
Tenth Circuit Court of Appeals upheld

### **Useful Compliance Assistance Resources**

**Office of Enforcement and  
Compliance Assurance:**  
<http://www.epa.gov/compliance>

**RCRA Enforcement Division:**  
[http://www.epa.gov/compliance/civil/  
programs/rcra/index.html](http://www.epa.gov/compliance/civil/programs/rcra/index.html)

**RCRA Financial Assurance  
Website:**  
[http://www.epa.gov/osw/  
hazwaste.htm#finance](http://www.epa.gov/osw/hazwaste.htm#finance)

**RCRA Online:**  
<http://www.epa.gov/rcraonline>

**National Compliance Assistance  
Clearinghouse:**  
<http://www.epa.gov/clearinghouse>

**Compliance Assistance Centers:**  
<http://www.assistancecenters.net>

**Small Business Gateway:**  
<http://www.epa.gov/smallbusiness>

**EPA's Audit Policy:**  
[http://oeaftp.sdc-moses.com/  
compliance/incentives/auditing/](http://oeaftp.sdc-moses.com/compliance/incentives/auditing/)

a district court decision granting EPA's request for an injunction requiring the Power Engineering Company to immediately comply with financial assurance requirements to ensure funds would be available to close its hazardous waste management units and to abate releases of hazardous waste from its facility. Power Engineering had illegally disposed of and managed hazardous waste for many years, and the hazardous waste, in some instances, had migrated into the groundwater and released into a nearby river. The 10th Circuit, in affirming the district court decision, required the company to immediately provide \$3.5 million in financial assurance.

### **Self-Disclosure of Financial Assurance Violations**

The use of effective financial assurance mechanisms is necessary to ensure the protection of human health and the environment.

EPA encourages owners or operators who believe they may be in violation of these requirements to take advantage of the Agency's Audit Policy, *Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations*, 60 F.R. 66,706 (Dec. 22, 1995). The Audit Policy eliminates gravity-based penalties for owners or operators that voluntarily discover, promptly disclose, and expedi-

tiously correct violations of federal environmental law.

**Further information about the Policy may be found at <http://www.epa.gov/compliance/incentives/auditing/auditpolicy.html>.** Owners or operators interested in conducting an audit or disclosing violations should contact the appropriate EPA Regional office. Owners or operators with facilities located in more than one Region should contact Phil Milton, EPA's Office of Regulatory Enforcement, Office of Enforcement and Compliance Assurance, (202) 564-5029, or email: [milton.philip@epa.gov](mailto:milton.philip@epa.gov).

**For more information on RCRA financial assurance requirements,** contact Lynn Holloway, Office of Regulatory Enforcement, Office of Enforcement and Compliance Assurance, (202) 564-4241 or email: [holloway.lynn@epa.gov](mailto:holloway.lynn@epa.gov).

**For compliance assistance information,** contact Sharie Centilla, (202) 564-0697, Email: [centilla.sharie@epa.gov](mailto:centilla.sharie@epa.gov).



## **EXHIBIT 8**

United States General Accounting Office

GAO

Report to the Congress

October 1987

# HAZARDOUS WASTE

## Issues Surrounding Insurance Availability





United States  
General Accounting Office  
Washington, D.C. 20548

Comptroller General  
of the United States

B-224651

October 16, 1987

To the President of the Senate and the  
Speaker of the House of Representatives

During the 1985-86 Superfund reauthorization process in the Congress, concerns were raised about the availability of pollution insurance. The Superfund Amendments and Reauthorization Act of 1986 directed that we determine the availability of insurance for individuals who may be liable for releases of hazardous substances into the environment. This report represents our analysis of this issue and discusses

- the current economic conditions in, and the outlook for, the pollution insurance market;
- effects on this market caused by trends in statutory and common law remedies and judicial interpretation of pollution insurance policies; and
- the frequency and severity of pollution claims closed by the insurance industry in 1985.

Copies of this report are being sent to appropriate House and Senate Committees; the Administrator, Environmental Protection Agency; and other interested parties. Copies will also be made available to others upon request.

This report was performed under the direction of Hugh J. Wessinger, Senior Associate Director, Resources, Community, and Economic Development Division. Other major contributors are listed in appendix IV.

A handwritten signature in cursive script that reads "Charles A. Bowsher".

Charles A. Bowsher  
Comptroller General  
of the United States

# Executive Summary

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## Purpose

Many of the companies that handle toxic substances do not have insurance for their pollution risks. This has raised concerns about the availability of funds for pollution cleanup and victim compensation.

In response to this concern, the Congress mandated—in the Superfund Amendments and Reauthorization Act of 1986—that GAO determine the availability of insurance for individuals who may be liable for releases of hazardous substances into the environment. GAO was asked to examine the economic condition and outlook for the pollution insurance market, trends in statutory and common law remedies and the interpretation of insurance policies, and the frequency and severity of pollution claims closed in 1985.

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## Background

The 1976 Resource Conservation and Recovery Act (RCRA) sets standards for the disposal of hazardous wastes and requires licensed disposal facilities to show that they are financially capable of paying at least some of the damages that might result from their activities. The 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires parties responsible for conditions at the nation's worst hazardous waste sites to clean them up themselves or reimburse the government for cleaning them up. Persons suffering bodily injury or property damage have no legal remedies under federal law and must seek compensation through state courts.

Since the mid-1980s, most insurers have generally refrained from offering new insurance policies covering pollution-related damages. Insurers cite several reasons for withdrawing from the pollution market. Primarily, they contend that environmental legislation, as well as recent trends in common law and court interpretations of environmental law, have broadened their liability for pollution coverage beyond what was intended under past policies. This, they maintain, has left them exposed to potentially enormous payments for claims presented under these past policies.

---

## Results in Brief

Pollution liability insurance continues to be generally unavailable. Although more than 100,000 companies generate, handle, or dispose of hazardous substances, few of them have insurance for pollution risks. Companies that do not have such insurance are self-insuring or are attempting to form risk-sharing groups. The Environmental Protection Agency (EPA) has established minimum financial responsibility requirements under RCRA, including insurance, for facilities that treat, store, or

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**Executive Summary**

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dispose of hazardous wastes (currently numbering about 4,000) but has not established similar requirements pursuant to CERCLA for other classes of facilities with pollution risks.

In examining recent court cases involving liability standards, GAO found that CERCLA liability standards for cleanup costs have been consistently upheld by the courts. The ability to obtain compensation by those claiming to be victims of pollution for bodily injury and property damage is less clear. Regarding court interpretations of insurance contracts, the extent to which insureds who have been held liable for damages can recover from their insurers varies, with no clear trend yet emerging.

GAO's survey of pollution claims closed in 1985 showed that insurers were generally not making high claims payments at that time. However, these claims are not necessarily indicative of the eventual magnitude of the insurance industry's pollution claims payments. Data on pollution claims closed after 1985 would be needed to establish trends in pollution claims payments. Currently, there is no central information source to capture data on all pollution claims.

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## Principal Findings

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### Insurance Availability

Only one insurance organization is actively marketing pollution insurance. A few hundred companies are insured under its policies. The maximum annual coverage that can be purchased is \$12.5 million. Several other insurance organizations provide limited-coverage pollution risk insurance.

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### EPA Financial Responsibility Requirements

As mandated by RCRA, EPA established minimum financial responsibility requirements for facilities that treat, store, and dispose of hazardous wastes. These regulations were intended to ensure that firms have adequate financial resources to pay for cleaning up hazardous substance releases and compensating victims for bodily injury and property damage. CERCLA required EPA to develop similar financial responsibility requirements for certain facilities (which could include manufacturing locations that handle hazardous substances) not covered by RCRA or other federal law. Many of these companies are now without pollution insurance. As yet, EPA has not developed the minimal level of financial



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Executive Summary

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responsibility for companies subject to pollution liability and has no timetable for doing so in the future.

---

**Liability for Cleanup and Compensation**

Courts have consistently ruled that insureds are liable for cleanup costs. However, pollution victims suffering bodily injury or property damage must seek compensation under various state statutes and common law. A significant change has been the willingness of some courts to permit recovery on new theories and types of evidence, or on theories and evidence which had earlier been rejected. While pollution victims have generally found it difficult to receive compensation, some courts have made awards in their favor. However states are enacting laws that may limit a victim's ability to obtain compensation.

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**Judicial Trends in Insurance Contract Interpretations**

GAO found that court decisions regarding the interpretation of insurance contract coverage sometimes favored the insurer and sometimes the insured, with no clear trend emerging. Court decisions so far, however, do give insurers a basis on which to draft certain pollution liability policy provisions that may help reduce variability in such judicial interpretations in the future.

---

**Pollution Claims Closed in 1985**

Because there is no central source of information on pollution claims, GAO sent claims questionnaires to all U.S. insurance companies it could identify that wrote or may have written pollution insurance. Of the 104 contacted, 75 responded that they closed 382 pollution claims with payment in 1985. Fifty of them also reported that they had about 11,900 pollution claims unresolved at the end of 1985. Of the 382 claims closed, insurers provided cost information on 200. Payments totaled about \$6.6 million; the average payment was \$33,040 (the median payment was only \$5,000).

Insurers assert that pollution claims for 1985 mainly represent closures on easily resolved claims involving relatively small settlements and therefore are not indicative of the extent of their liability. They contend that most pollution claims have yet to be resolved or even presented and that these could involve much larger payments. Data on post-1985 claim payments not now available are needed in order to assess the extent of future claim payments.

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**Executive Summary**

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**Recommendation**

Given the likelihood that most companies involved with hazardous substances may not obtain pollution insurance to cover their risks, it is critical that EPA develop and implement the financial responsibility regulations mandated by the Congress in the 1980 CERCLA. Because EPA has set no time frames for developing these regulations, GAO recommends that the Administrator, EPA, establish specific milestones leading to the timely implementation of financial responsibility regulations for risks associated with classes of facilities covered by CERCLA.

---

**Matter for  
Congressional  
Consideration**

Determining the amounts that insurers are paying for CERCLA cleanups and related third-party bodily injury and property damage is difficult because the insurance industry does not have centralized, comprehensive data on these indemnity payments. Given this situation, GAO believes that the Congress should consider requiring insurers or responsible parties, as appropriate, to report to EPA the amounts of indemnity payments made to cover pollution cleanups and related third-party bodily injury and property damage.

---

**Agency and Industry  
Comments**

EPA stated that the report accurately described the hazardous waste insurance problem and concurred with the appropriateness of the recommendation and matter for congressional consideration. The views of responsible officials representing state insurance regulators; insurers; persons who generate, store, treat, or dispose of hazardous substances; persons harmed by the release of hazardous substances; and consumer groups were also obtained during GAO's work and are incorporated in this report where appropriate.

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**Figure**

Figure 6.1: The "Tail" on 117 Pollution Claims Closed in 1985

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**Abbreviations**

AIA	American Insurance Association
AIG	American International Group
CBO	Congressional Budget Office
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CGL	comprehensive general liability
CMA	Chemical Manufacturers Association
DES	diethylstilbestrol
EIL	environmental impairment liability
EPA	Environmental Protection Agency
EPIC	Environmental Protection Insurance Company
GAO	General Accounting Office
GGD	General Government Division
HRD	Human Resources Division
IELA	Insurance Environmental Litigation Association
ISO	Insurance Services Office
NACC	North American Casualty Cooperative
OTA	Office of Technology Assessment
PLIA	Pollution Liability Insurance Association
RCED	Resources, Community, and Economic Development Division
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
STTE	Superfund Innovative Technology Evaluation
TSDF	treatment, storage and disposal facility
WILL	Waste Insurance Liability Limited

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# Introduction

Many chemicals used in industrial processes—along with the products, byproducts, and wastes of these processes—pose deadly threats to human health if improperly released into the environment. This harm can be sudden, as with the release of deadly methyl isocyanate in Bhopal, India, or it can be gradual, as at Love Canal, New York, where chemical wastes slowly contaminated groundwater that leaked into basements of local residents. Along with the human suffering it can cause, pollution from hazardous chemical substances can result in multimillion-dollar liabilities arising from bodily injury, property damage, and environmental cleanup costs. Industries involved with hazardous substances need to be in a position to cover potential pollution liabilities while still maintaining their financial viability.

In past years, commercial insurance offered one means of covering part of the cost of such liability. More recently, however, the availability of pollution insurance has dwindled, raising the question of how well industries involved with hazardous materials can cover their pollution liability without such insurance. This report reviews the current availability of pollution insurance, the possible causes of insurers' withdrawal from the pollution insurance market, and the outlook for increased availability of this insurance in the future. In addition, the report discusses the use of alternative methods of covering pollution liability, other than through traditional commercial insurance policies.

## Legislative Responses to Pollution Risks

The risks involved with hazardous substances were dramatized by incidents in the 1970s involving the chemical contamination of drinking water, beef cattle, and milk. In 1972, for example, unsafe levels of the toxic chemical hexachlorobenzene were discovered in beef from a Louisiana cattle ranch. The chemical was apparently being spread from a nearby waste disposal site by air currents. Testing of local residents showed that they had high levels of this chemical in their blood.

In 1987, the Environmental Protection Agency (EPA) estimated that about 100,000 companies generated hazardous substances. Seventy-one percent of these wastes came from the chemical and petroleum industries, and the remainder from a wide range of other industries including metal finishing, general manufacturing, and transportation. The Congress took major steps in dealing with chemical pollution problems by passing the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Both of these laws include pollution liability provisions.



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**Chapter 1**  
**Introduction**

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RCRA requires EPA to promulgate regulations to control the nation's hazardous chemical wastes from their generation to their final disposal. Among EPA's RCRA regulation, are requirements that owners and operators of the nation's hazardous waste treatment, storage, and disposal facilities (TSDFs) demonstrate financial responsibility for bodily injury and property damage to third parties caused by pollution incidents. EPA has identified about 4,000 TSDFs that are currently operating RCRA facilities available to handle hazardous wastes.

Under RCRA regulations, TSDF owners and operators must maintain liability coverage for sudden and accidental pollution incidents of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, excluding legal defense costs. Owners and operators of surface impoundment,<sup>1</sup> landfill, or land treatment facilities must also maintain liability coverage for gradual ("nonsudden") pollution incidents of at least \$3 million per occurrence, with an annual aggregate of at least \$6 million, excluding legal defense costs. Liability coverage may be demonstrated in one of several ways (1) by having liability insurance, (2) by passing a financial test, (3) by providing a corporate guarantee, (4) by using a combination of the financial test and insurance, or (5) by using a combination of a corporate guarantee and insurance. These options are discussed further in chapter 3.

CERCLA, more commonly known as Superfund, addresses the need to clean up the nation's worst hazardous waste sites. Under CERCLA, parties that contributed to the dangerous conditions at these waste sites are held liable for the cost of their cleanup. We have estimated that the number of sites needing cleanup could eventually grow from the current 951 to over 4,000, cost as much as \$80 billion, and take until the year 2017 to complete.<sup>2</sup>

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## **Evolution of Pollution Insurance**

Prior to the 1970s, the insurance industry provided coverage for a broad range of commercial liability due to accidental personal injury or property damage—which might have included pollution incidents—under comprehensive general liability (CGL) policies. Following increased awareness of the financial liabilities associated with pollution incidents, the insurance industry in the late 1960s began an ongoing process of revising, redefining, and limiting policy language that might apply to

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<sup>1</sup>An open pond or lagoon in which liquid or semisolid wastes are stored.

<sup>2</sup>This estimate is in 1983 dollars. See Cleaning Up Hazardous Wastes: An Overview of Superfund Reauthorization Issues (GAO/RCED-85-69, March 20, 1985).

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pollution damages. For example, a "pollution exclusion" clause was added to the standard CGL policy to specify that the policy covered only sudden and accidental pollution incidents. During the 1970s, some insurers developed entirely separate Environmental Impairment Liability (EIL) policies specifically to cover pollution risks. When RCRA financial responsibility requirements specified that liability coverage must include both sudden and gradual pollution, the insurance industry developed a standard form claims-made pollution liability insurance policy.<sup>3</sup> By 1986, two new standard form CGL policies had been created: claims-made and occurrence CGL policies. These policies imposed aggregate dollar limits, as well as per-occurrence limits, and provided coverage for pollution damages only through separate endorsements ("coverage parts").

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## Controversy Over Causes of the Pollution Insurance Problem

Despite such policy revisions, by the mid-1980s many major property/casualty insurers were maintaining that the combination of the inherent risks associated with pollution (such as long-latency diseases), judicial decisions involving liability standards and insurance contract coverage, and broad liability established by federal environmental laws made pollution exposures uninsurable.

Insurers maintain that basic concerns of underwriting<sup>4</sup> a risk—the fortuity of occurrence and predictability of loss—cannot be satisfied when dealing with pollution risks, thereby making these risks uninsurable. Specifically, they maintain that from a technical standpoint, leakage at hazardous waste sites is a virtual certainty and therefore not a fortuitous, insurable event. They also maintain that expanded legal liability standards have made the extent of losses from pollution incidents unpredictable because an insurer may have to pay for damages not caused by the insured party. Adding to these concerns is the insurers' dismay over what they maintain are misinterpretations by courts of coverage provisions of insurance policies. They believe that such adverse court decisions have obliged them to pay claims for incidents that their policies did not cover and for which they collected no premiums. As a result, insurers believe, they are faced with enormous potential liability for hazardous waste site cleanups under CERCLA, along with

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<sup>3</sup>Under an occurrence based policy, the incident giving rise to the claim must occur during the policy period, but the claim can be filed after the policy period has elapsed, even though many years may have passed. Under a claims made policy, the claim must generally be filed during the term of the policy.

<sup>4</sup>Underwriting is the process of identifying and evaluating risks and setting the premium to be charged for risks accepted by the insurer.

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other pollution incidents. They maintain that given this potential for losses, the effects of CERCLA liability standards and court interpretations of contract coverage provisions could place a severe strain on their financial capacity to write property/casualty insurance in the future.

The insurers' positions regarding the legal system and environmental law have been contested by critics of the insurance industry. These critics maintain that recent problems in the commercial liability insurance industry, such as the sharp downturn in profits in the mid-1980s and consequent affordability and availability problems, are due mainly to the insurers' own business practices, rather than to legal factors. For example, they maintain that record high interest rates in the early 1980s led insurers to charge inadequate premiums and underwrite poor risks in order to attract premium dollars, which could be invested at high interest rates ("cash flow underwriting"). Some critics further maintain that insurers are using their recent financial difficulties to justify changes in the legal system that would, in effect, limit future insurance claims losses by limiting the ability of plaintiffs to recover damages through lawsuits. They note that insurers made a similar plea for legal reform during the previous "insurance crisis" in the mid-1970s.

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## **Congress Mandates Insurance Studies**

This controversy over the causes of the contraction in the availability of pollution insurance was aired during the 1985-86 Superfund reauthorization process. The Congress heard conflicting testimony from the insurance industry and its critics on basic issues related to the financial performance of the insurance industry, current trends in judicial decisions on liability standards and contract interpretation, and other alleged impediments to pollution insurance. In the end, insurers were unable to convince the Congress that changes in CERCLA's liability standards were needed, and the 1986 Superfund Amendments and Reauthorization Act (SARA) was passed with little change to the 1980 CERCLA liability standards.<sup>6</sup>

In passing SARA, however, the Congress directed GAO to review four key issues associated with insurance for handlers of hazardous substances:

- The liability of those who clean up hazardous waste sites.
- The liability of those associated with hazardous waste sites after their closure.

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<sup>6</sup>SARA did, however, generally allow EPA to indemnify CERCLA cleanup contractors for certain liabilities if they could demonstrate that insurance was unavailable to them.

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- The liability of those responsible for underground petroleum storage tanks
- The availability of insurance for individuals who may be liable for the release of hazardous substances into the environment.<sup>6</sup>

This report addresses the fourth issue, found in SARA section 208. The other issues will be the subjects of future GAO reports. In addition to this work on environmental insurance, GAO reported in May 1986 on issues surrounding environmental restoration insurance issues facing the trucking industry.<sup>7</sup>

## Objective, Scope, and Methodology

The objective of this report is to provide the Congress with the study mandated by SARA section 208 on the availability of insurance for persons who generate or handle hazardous substances, and the effects of liability on their standards of care with regard to these substances.

Section 208 delineated the scope of our study. This section directed us to review eight interrelated economic and legal issues regarding the availability of pollution insurance. Table 1.1 lists these items in abbreviated form and indicates where they are discussed (See app. I for the full legislative language and app. II for a detailed discussion of our objective, scope, and methodology.)

**Table 1.1: Items to Be Evaluated Under SARA Section 208**

Item	Where discussed
A Current/future conditions for commercial insurance	Chapters 2, 3
B Current trends in statutory and common law remedies	Chapter 4
C Impact of changes in liability standards on statutory and common law remedies	Chapter 4
D Effect of liability standards on the protection of the environment and availability of insurance	Chapters 2, 3, 4
E Current trends in the judicial interpretation of insurance contracts	Chapter 5
F Frequency and severity of pollution claims closed during 1985	Chapter 6
G Other impediments to acquisition of liability insurance	Chapters 2, 3
H Effects of liability standards and financial responsibility requirements on the development of innovative waste reduction technologies	Chapters 3, 4

<sup>6</sup>In addition to these four insurance studies, SARA directed GAO to perform two others. One pertaining to Superfund work force issues will be issued in the fall of 1987 (GAO/RCED-88-1) and the other, to be performed in the future, concerns SARA's toxic chemical release provisions.

<sup>7</sup>Motor Carriers: The Availability of Environmental Restoration Insurance (GAO/RCED-86-150BR, May 19, 1986)

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As directed by section 208, we consulted EPA officials, state insurance regulators, insurance industry officials; persons who generate, store, treat, or dispose of hazardous substances, persons harmed by the release of hazardous substances, and consumer groups. In addition to our individual interviews, we invited representatives from these groups to participate in a conference we convened in February 1987 to discuss our study's issues and audit methodology. We also made a draft of this report available to the representatives. We discussed the draft with them and incorporated their comments throughout the report where appropriate.

Our analysis was based on extensive interviews on the condition of the pollution insurance market with insurers, state insurance regulators, generators and disposers of hazardous waste, EPA, and state RCRA program officials. Because many of the financial data needed to perform this study are proprietary or unavailable in any readily accessible form, we relied on the voluntary cooperation of the insurance and hazardous substances industries to provide us with relevant information. We discussed pollution insurance issues with 12 insurance companies, 3 insurance brokerage firms, and 4 insurance trade associations. We also contacted five reinsurance companies, a reinsurance broker, and a reinsurance trade association. To obtain the perspective of the hazardous substance industry we spoke with 5 generators, 11 TSDFs, and 6 associations representing industries with potential pollution risks. In addition, we discussed insurance regulatory issues with nine state insurance commissioners and a Washington-based consumer organization dealing with insurance.

We also reviewed industry data from A M. Best, a leading source for data on the insurance industry. Most of this information, however, deals with the general condition of property/casualty insurance, of which pollution insurance is a small part. We found no industry-wide quantitative data on pollution insurance alone. We therefore attempted to gather information and data on pollution insurance through reports in the insurance trade press, congressional testimony, and articles and analyses by insurers, consumer groups, and others. We also obtained data on the frequency and severity of pollution insurance claims closed during 1985 by means of questionnaires that we sent to 104 property/casualty insurance organizations.

Our legal work involved a review of CERCLA and its 1986 amendments under SARA, as well as case law for liability standards applied under CERCLA, as amended. We researched state statutes and common law

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causes of action and remedies for injury and damage caused by pollution. We also reviewed legislative changes to tort law to determine the impact of possible changes in traditional standards of liability on the ability of persons harmed by hazardous waste to obtain remedies for their injuries.

Our review of trends in court interpretations of insurance contracts involved examining relevant case law and legal articles on this issue, as well as the development of comprehensive general liability and pollution liability insurance contracts over recent decades. We also discussed with members of the Insurance Environmental Litigation Association, and others, the possible impact of changes in pollution insurance contract language.<sup>8</sup>

Our review was conducted between October 1986 and August 1987 and was performed in accordance with generally accepted government auditing standards. We sent a draft of this report to EPA for formal comment.

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<sup>8</sup>The Insurance Environmental Litigation Association is a trade association comprised of major property/casualty insurance companies. It was formed in part for the purpose of presenting the position of its members in environmentally related insurance law cases.



## Chapter 2

# Limited Availability of Pollution Insurance

Few insurance companies are currently offering pollution insurance. According to insurance industry officials, the uncertainties created by potentially enormous claim payments and unfavorable legal trends have led most of the insurance industry to perceive pollution as an uninsurable risk. The near-term outlook for increased availability of pollution insurance does not appear favorable, and many insurers indicate that they may never offer pollution insurance.

We identified only one insurer that actively seeks to insure pollution risks. We also identified a few insurers that, as an accommodation, provide pollution insurance to selected clients who carry coverage by the insurer for other risks. However, the amount of coverage they offer is limited, expensive, and may be available to only relatively low-risk operations. In addition, we identified five participant-owned and -operated risk pools that provide insurance for catastrophic general liability losses and currently include coverage for sudden pollution releases but not gradual releases.

We also identified two new risk pools that are being formed as an option to traditional insurance. Like the risk pools that provide catastrophic insurance, these new risk pools will be participant-owned and -operated. They will offer only pollution insurance and will cover both sudden and gradual releases. Because these groups are still in the formative stages, however, it is too early to assess their effectiveness in meeting the insurance needs of their members and filling the void created by the general lack of pollution insurance available from the insurance industry.

## The Insurance Industry and Pollution Insurance

Property/casualty insurance comprises about half of insurance industry premiums. Life insurance and health insurance account for the remainder. Property/casualty insurance includes, among other things, workers' compensation, homeowner, and auto insurance, as well as specialty insurance lines such as Environmental Impairment Liability (EIL) insurance. The insurance industry wrote about \$154.3 billion in direct premiums in 1985 for property/casualty insurance. We estimate that less than one-half of one percent (about \$65 million) of those premiums were written for EIL insurance.



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We have completed several studies addressing key aspects of the insurance industry. In July 1987 we reported on the profitability of the property/casualty insurance industry.<sup>1</sup> Profitability in the insurance industry is determined by combining both underwriting and investment results. We found that despite incurring substantial underwriting losses over the 10-year period 1976 through 1985, the property/casualty insurance industry more than offset those aggregate losses with investment gains. We estimated that the industry had about \$81 billion in after-tax income during that period. The insurance industry disagreed with our profitability estimate of \$81 billion—its method of calculation showed \$54 billion. However, even the lower estimate shows that the industry's average rate of return on net worth has not been out of line with those of other industries.

As we noted in a 1986 report that examined the cyclical nature of the property/casualty insurance industry, the most recent loss cycle was more protracted in duration than usual, with underwriting losses resulting every year since 1980.<sup>2</sup> The continuation of the industry's underwriting losses was exacerbated by the industry's cash flow underwriting pricing strategy, which relied upon investment income to overcome underwriting losses. Basically, companies were willing to accept lower premiums for certain insurance lines in order to encourage sales and obtain funds for investment. This strategy changed, however, as underwriting losses became unacceptably high.

Table 2.1 illustrates the most recent cycles in underwriting gains and losses, investment gains and losses, and profitability for property/casualty insurance from 1976 through 1985. As indicated in our July 1987 report, the most recent underwriting cycle peaked in 1978, then declined until it bottomed out in 1985 when the industry experienced record underwriting losses. The industry had after-tax profits, however, because of gains on investments during that same period. The Insurance Information Institute has reported that property/casualty insurance earnings improved substantially in 1986.<sup>3</sup> On the basis of those data, we estimated that the after-tax net gain for property/casualty insurance increased from \$9.7 billion in 1985 to about \$17 billion in 1986. (On the

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<sup>1</sup>Insurance: Profitability of the Medical Malpractice and General Liability Lines (GAO/GGD-87-57, July 13, 1987).

<sup>2</sup>Tax Policy: Financial Cycles in the Property/Casualty Industry (GAO/GGD-86-56FS, April 9, 1986).

<sup>3</sup>The Insurance Information Institute is an organization sponsored by the insurance industry to provide information to the public and the Congress.

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basis of the industry's method of calculation, the industry's after-tax income increased from \$1.9 billion in 1985 to \$12.7 billion in 1986.)

**Table 2.1: Combined After-Tax Gains for the Property/Casualty Insurance Industry by Year, 1976-85**

(in billions of dollars)

Year	Underwriting gains (losses) <sup>a</sup>	Investment gains (losses) <sup>b</sup>	Pre-tax total	Federal income tax <sup>c</sup>	After-tax total
1976	(\$1.7)	\$7.2	\$5.4	\$0.1	\$5.3
1977	1.9	5.1	7.0	1.0	6.0
1978	2.5	7.8	10.3	1.4	8.9
1979	•	11.6	11.6	0.9	10.7
1980	(1.7)	15.9	14.2	0.6	13.6
1981	(4.5)	10.9	6.4	0.1	6.3
1982	(8.3)	18.4	10.1	(0.7)	10.8
1983	(11.1)	19.4	8.4	(1.2)	9.6
1984	(19.4)	17.9	(1.5)	(1.7)	0.2
1985	(22.6)	30.2	7.6	(2.0)	9.7
1976-85	(\$64.8)	\$144.3	\$79.5	(\$1.6)	\$81.1

Note: The data in this table are computed on a consolidated basis to eliminate double counting by excluding intercompany transactions between parent and subsidiary companies. Also, tables may not add up due to rounding of numbers.

<sup>a</sup>Net premiums earned minus losses and expenses. These results are based on undiscounted reserves.

<sup>b</sup>Net investment income plus realized and unrealized capital gains.

<sup>c</sup>Negative federal income tax occurs because companies report losses for tax purposes and consequently generate negative income taxes. Negative income taxes can be applied to past taxes paid, which generate refunds or are carried forward to apply against future tax liabilities.

Source: Insurance, Profitability of the Medical Malpractice and General Liability Lines (GAO/GGD-87-67, July 13, 1987).

In regard to this table, trends in EIL insurance may differ from overall industry trends. The recovery in the insurance cycle that is indicated to have taken place probably does not reflect what has happened in the EIL market. Insurers tell us that this market has not made any significant recovery, although others argue that a broad market for EIL policies never really existed. Available estimates indicate that the 1984 annual premium volume for EIL insurance peaked at about \$65 million.<sup>4</sup> We estimate that the 1986 premium volume was also about \$65 million. Although this does not appear to be a decline in nominal terms, it represents a decrease in total coverage offered, considering that rate increases, contractions of limits, and increases in deductibles occurred

<sup>4</sup>Because the insurance industry does not maintain data on pollution insurance separately, the data we present are estimates based on our discussions with insurance industry officials.

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during this time period. Also, in 1984 and prior years, some sudden and accidental pollution releases were covered under CGL policies. By 1986, however, pollution coverage had been excluded from standard form CGL policies except by endorsement, according to insurance industry officials.

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## Current Pollution Insurance Providers

Today the supply of pollution insurance available to industries involved with hazardous substances is limited. We found only one supplier that actively markets pollution insurance: the American International Group (AIG). In addition, a number of other companies may occasionally write pollution insurance as an accommodation to their clients. One group that does this is the Pollution Liability Insurance Association (PLIA), a consortium of 18 insurance companies. Only two reinsurers of pollution insurance remain in the market. (Reinsurers are companies that assume, for a share of the premium, a portion of the potential liability risks that the insurance companies underwrite.)

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## American International Group

AIG, the principal current supplier of pollution insurance, is a holding company for approximately 110 member companies. American International Assurance is the largest property/casualty insurance company within AIG and is the AIG member that underwrites pollution risks. AIG actively seeks to market pollution insurance. It is the only commercial insurance source we could identify that offers pollution insurance on a monoline basis (that is, without requiring the insured to carry any other AIG insurance).

AIG began writing EIL coverage in 1980 and wrote an estimated \$40 million in pollution premiums in 1986. Between 1980 and 1984, AIG offered policies with coverage up to \$20 million. Maximum coverage dropped to \$10 million in 1985 and 1986, which AIG officials attribute to a decline in the availability of reinsurance for pollution. Citing a gradual increase in reinsurance now available to them, the AIG officials we spoke with indicated that AIG recently raised its annual maximum policy limit to \$12.5 million, but noted that about half of the policies are at the RCRA liability requirement limit of \$6 million total annual coverage. These policies are written on a claims-made basis and provide gradual only, or gradual and sudden, pollution coverage.

According to its officials, AIG has the capacity to write more pollution insurance and would like to do so. They estimated that during the past year AIG approved 2,000 companies that applied for pollution insurance,

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but only 400 companies took policies. The AIG officials thought that more companies did not take the offered coverage because perhaps the premium AIG wanted might have been higher than the companies were willing to pay or the coverage was narrower than what they were seeking to obtain.

AIG officials stated that a large portion of its policies are with hazardous waste treatment, storage, and disposal facilities (TSDFs) subject to RCRA regulations. AIG believes that certain types of pollution risks are assessable and insurable. The officials told us that a review of how the prospective insured manages a pollution risk is key to determining whether that risk is insured by AIG. The activities AIG covers include chemical manufacturing, mining, wastewater treatment, hazardous waste disposal, and petroleum storage terminals. However, AIG will not insure (1) older underground storage tanks because of difficulties regarding their structural integrity and (2) closed RCRA facilities because they are not actively managed.

AIG officials describe their initial entry into the pollution insurance market as cautious and attribute their successful participation to their history of adhering to very careful underwriting standards, including requiring detailed risk assessments and management assessments of each facility considered for coverage. They describe their competitors as underwriting pollution coverage less carefully, with insufficient emphasis on risk assessment and risk management.

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**Pollution Liability  
Insurance Association**

PLIA is a consortium of insurance companies that reinsures the pollution business written by its members. PLIA was established in 1982 by a group of insurance companies that wanted to continue offering pollution coverage to their clients but were no longer able to obtain reinsurance for pollution policies. Each year PLIA's membership pool changes as insurance companies join and leave the group. Companies join PLIA if they have a need to offer pollution liability coverage to their clients and drop out if they do not. In 1984 PLIA's membership had reached 48 insurance companies that wrote \$24 million in pollution premiums. PLIA members wrote an estimated \$10 million in pollution premiums in 1985 and \$20 million in 1986.<sup>5</sup> As of June 1987, PLIA membership was down to 18 companies. According to an association official, this reduction was due in part to PLIA's dropping 12 members that no longer met its financial standards.

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<sup>5</sup>Data are not reported by individual member companies.

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With the exception of pollution insurance for underground petroleum storage tanks, PLIA members do not market pollution insurance by itself.<sup>6</sup> Rather, PLIA members, in general, offer pollution coverage as an accommodation to selected clients who carry coverage for other risks. As of July 1987, PLIA reported having about 150 such accommodation policies. The policy limits that PLIA offers are much lower than AIG's: \$1 million per occurrence and \$3 million annual aggregate. These limits meet the minimum RCRA liability coverage for sudden releases required for all TSDFs but not the minimum liability coverage for gradual releases that land disposal facilities are required to meet.

Just over half of PLIA's premium volume in 1986 came from policies on underground petroleum storage tanks. The PLIA underwriter who wrote the largest portion of the pollution policies on petroleum tanks stopped offering this coverage effective July 1, 1987, the tank owners are forming a risk retention group to provide for their future insurance needs.

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**Other Commercial Insurers**

Representatives of major insurance industry trade associations and insurance brokers identified AIG and PLIA as the only important sources of pollution coverage among traditional insurance companies. They were unable to identify any other significant insurance industry suppliers, although some insurance companies we spoke with acknowledged writing pollution coverage to some extent now. However, their activity seems to be limited to either an accommodation to selected clients or continuation of a few older accounts. Citing the uncertainties created by potentially enormous claim payouts and unfavorable legal trends, the insurance industry representatives said most commercial insurers had withdrawn from the pollution insurance market and indicated they may never offer pollution insurance.

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**Reinsurance for Pollution Risks**

Insurers spread the risks of insuring potential losses by selling a portion of those potential losses to reinsurers in exchange for a portion of the premium. As such, reinsurers play a key role in insurance availability to the extent that they are willing to reinsure particular risks. Currently, the availability of reinsurance for hazardous waste pollution risks appears to be limited, according to the five major reinsurers and the

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<sup>6</sup>Petroleum is not subject to RCRA's financial regulations for TSDFs. EPA is developing specific financial regulations for petroleum underground storage tanks. Liability issues surrounding underground petroleum storage tanks will be addressed in a future GAO report.

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reinsurance broker we spoke with. In the opinion of these representatives, reinsurance for pollution liability risks has declined sharply since 1984, when foreign reinsurers began leaving the market.

Neither could we obtain information on current reinsurance premium volume or rates for pollution risks. Simply identifying companies that currently write this business is difficult. We could identify only two companies that currently offer such reinsurance, and then only on a very selective basis: General Reinsurance Corporation and Munich American Reinsurance Company. We were told by industry representatives that quite a few other reinsurers may write this business on a selective basis but that the companies would not be willing to admit it because they would not want their other customers coming to them to reinsure pollution risks.

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## Outlook for the Supply of Pollution Insurance Is Uncertain

Although commercial insurers generally told us that they were unwilling to insure pollution liabilities, some coverage is available and sources outside the insurance industry are entering the market. In addition to the two industry sources (AIG and PLIA) that are currently offering pollution insurance, five risk pools that offer catastrophic insurance cover sudden pollution risks, and two risk-retention groups are entering the pollution market. However, it is not certain whether these kinds of insurance can meet the needs of those that handle hazardous substances.

The limited availability of adequate and affordable commercial pollution insurance has led generators and disposers to consider risk pooling as an alternative way of dealing with their pollution liability exposure. Both the catastrophic coverage pools already in operation, and the risk-retention groups that are in the process of forming, are member-owned and -operated insurance pools in which pollution liability risks are shared among the participants. It is precisely their potential for spreading the risk of individual generators and disposers that makes risk-retention groups a viable alternative to commercial pollution insurance. However, risk-retention groups targeting other areas, such as medical malpractice and product liability, have been slow to develop and have drawn criticism for not having sufficient capitalization to meet potential liabilities.



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**Risk Pools Provide  
Catastrophic Pollution  
Insurance**

As mentioned earlier, insurers generally exclude pollution liability from their current CGL policies. However, some risk pools that provide excess general liability insurance (that is, coverage beyond the limits of normal primary coverage) include coverage for sudden pollution releases. Excess coverage is often referred to as catastrophic coverage because of the high level at which the coverage begins, usually above \$25 million or more in losses, and because of the quantity of coverage that can be purchased, up to \$140 million. This coverage extends to general liabilities not specifically excluded under the excess coverage agreement. Because excess coverage excludes gradual pollution releases, however, its usefulness to companies with potential gradual releases of hazardous substances, such as land disposal activities, is limited. Indeed, while there are more than 100,000 hazardous substance generators and about 4,000 TSDFs, the excess coverage pools that included pollution coverage had only about 678 participants as of March 1987.<sup>7</sup>

We identified five risk pools that include sudden pollution liability in the catastrophic coverage they provide. These pools, together with the approximate number of participants as of March 1987, are: ACE Insurance Company, Limited (300), Energy Insurance Mutual (28), PRIMEX Limited (20); Tortuga Casualty Company (30); and XL Insurance Company Limited (300).<sup>8</sup>

Two of the pools have membership restrictions: Energy Insurance Mutual limits its membership to electric and gas utilities and PRIMEX to medium-sized chemical companies. Also, PRIMEX's coverage begins at the lowest level of losses, providing \$15 million in coverage above \$1 million in losses, while Energy Insurance Mutual provides \$10 million to \$50 million in coverage above \$25 million in losses.

The other three groups have diverse industry participation. ACE, for example, has policyholders in manufacturing, transportation, financial and other services, mining, retail trade, construction, and wholesale trade. They also offer broad coverage limits. Tortuga provides up to \$50 million in coverage above \$25 million in losses; XL provides up to \$75

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<sup>7</sup>EPA identified an estimated 85,000 large-quantity generators (who generate more than 1,000 kilograms of hazardous waste per month) since the passage of RCRA in 1976. Of those EPA estimates that 40,000 are currently operating. In addition, EPA estimates that over 100,000 small-quantity generators (who generate between 100 and 1,000 kilograms per month) are currently operating, although only about 60,000 had been identified by EPA as of July 1987. These figures do not include generators who do not generate a hazardous waste but do face potential pollution releases from hazardous substances used in the production process. These generators may number in the tens of thousands.

<sup>8</sup>Business Insurance, March 30, 1987.



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million in coverage above \$25 million in losses; and ACE provides up to \$140 million in coverage above \$100 million in losses.

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## **Risk-Retention Groups**

Efforts to form risk-retention groups for those with potential pollution liability are being initiated by financial brokers and trade associations whose clients or members are unable to obtain pollution insurance from the insurance industry. Risk-retention groups emerged after the enactment of the Product Liability Risk Retention Act of 1981, which enables certain companies to form self-insurance associations or corporations that could provide insurance to cover their members' potential product liability risks when commercial product liability insurance became scarce. The act also preempts state laws prohibiting such pools. The viability of this option for pollution insurance was enhanced by two recent laws. First, the Risk Retention Amendments of 1986 expanded the concept of risk retention beyond product liability risks to allow a broader range of firms with common liability risks (not necessarily related to product liability) to form self-insurance pools. Second, section 210 of SARA specifies that risk-retention groups may operate to provide pollution liability insurance to their members.

During our review we identified three risk-retention groups that were in the process of forming to meet pollution insurance needs in the hazardous substance industry. All three anticipated being operational by late 1986 or early 1987. However, two have slipped their original start-up dates to late 1987 and the third effort was terminated in August 1987. The two ongoing efforts are Hypercept and the Environmental Protection Insurance Company (EPIC). These groups are targeting small to mid-sized firms. Hypercept plans to initially offer up to \$2 million total annual coverage to about 33 companies and, as participation increases, plans to increase coverage limits to \$6 million. EPIC plans to offer up to \$10 million annual coverage to about 200 companies. The third group, North American Casualty Cooperative (NACC), was targeting very large companies and planned to offer up to \$12 million to \$50 million annual coverage to 30 to 100 "Fortune 500" companies. NACC withdrew its offering when, according to its founder, companies were not willing to put up the initial capital contribution needed to begin operations.

Also, an earlier effort to form a risk pooling group for hazardous waste dispersers was abandoned in late 1986. That effort, called Waste Insurance Liability Limited (WILL), was undertaken by the National Solid Wastes Management Association in 1985. According to an official, the association attempted to develop an industry-owned insurance company

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with coverage that would satisfy RCRA liability requirements for its members and protect their members' assets. Because the waste disposal industry is comprised of a few very large companies and many small companies, the association was unable to set initial capital contributions and annual premiums that prospective participants considered equitable. The association could not resolve these problems and decided that it would not go forward with its plan.

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**Summary**

The supply of pollution insurance currently available to the hazardous substance industry is limited. Only one insurance industry source, AIG, is actively pursuing the pollution insurance market. A few other companies write pollution insurance for selected clients who carry coverage for other risks.

The remainder of the insurance industry, for the most part, regards pollution risks as uninsurable. These companies cite unfavorable legal trends and potentially enormous claim payments for their withdrawal from the market over the last few years and their reluctance to underwrite pollution risks. As we discuss in subsequent chapters, insurers maintain that the combination of the inherent risk of insuring against pollution, uncertainty about judicial decisions regarding liability standards and insurance contract coverage for pollution incidents, and broad liability established by federal environmental law made it too difficult for them to write new pollution insurance at a profit. More importantly, insurers claim that these aspects of current pollution liability may prevent their future reentry into the pollution insurance market, even as the overall insurance industry recovers its financial position.

In an effort to fill the void created by the lack of pollution insurance available from the insurance industry, risk-retention groups are forming. These participant-owned and -operated self-insurance pools are forming as an alternative to traditional insurance for firms that handle hazardous substances and want insurance for their potential pollution risks. However, risk-retention groups established to insure other types of liabilities have been slow to develop and may face capitalization problems. Because risk-retention groups for pollution liabilities are still in the formative stages, it is too early to assess their effectiveness in meeting the insurance needs of their members.

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**Limited Availability of Pollution Insurance**

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**Agency Comments**

We received both oral and written comments on a draft of this report from EPA. In elaborating on their written comments, EPA officials commented that they generally concur with the report's findings, conclusions, recommendation, and matter for congressional consideration.

## Chapter 3

# EPA Needs to Develop Additional Financial Responsibility Requirements for Those With Potential Pollution Releases

TSDFs, generators, and innovators of waste reduction technologies who seek to protect themselves against losses arising from pollution liabilities are, for the most part, finding that pollution insurance is scarce and expensive. According to industry sources, chemical manufacturers generally do not have commercial pollution insurance, nor do many product manufacturers that use toxic materials in their production processes. Most hazardous waste land disposal facilities also do not have pollution insurance.

In order to ensure a minimum level of financial resources to cover certain pollution liabilities for TSDFs, RCRA required EPA to establish financial responsibility requirements. In response, EPA developed regulations allowing TSDFs to demonstrate financial responsibility through the use of insurance or by meeting financial responsibility tests. Due to the absence of insurance, many of the approximately 4,000 TSDFs are demonstrating financial responsibility through these tests. Similar requirements were mandated under CERCLA in 1980 for the broader range of facilities not covered by RCRA or other federal law. As yet, EPA has not established these requirements.

## Insurance for TSDFs

According to EPA regional and most state RCRA program representatives, TSDFs with land disposal activities (specifically, land treatment, surface impoundments, and landfills) are experiencing the greatest difficulty getting insurance. Under RCRA, these facilities are required to have both sudden and gradual pollution coverage. However, as indicated in chapter 2, insurance companies, over the past few years, have practically withdrawn from the market of offering gradual pollution liability insurance.

According to an official of the National Solid Wastes Management Association, which represents about 130 companies that handle hazardous or infectious materials, pollution liability insurance is a major problem for all of its members. For the most part, member companies meet their pollution liability requirements through financial responsibility tests rather than with insurance. The association membership includes 18 disposal companies that together account for at least 75 percent of commercially disposed hazardous waste.

In a review of annual reports and other public documents, we found that the nation's two largest hazardous waste disposal companies had indemnified pollution insurance policies that do not transfer liability risk to the insurer except in the event of bankruptcy. On a Securities and

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Exchange Commission form (SEC form 10-K) that publicly-owned corporations are required to file annually, these two disposal companies reported that, during 1985, they had indemnified pollution insurance policies in which they agreed to reimburse their insurer for claims paid on the policies. Officials at both companies told us that they still have indemnified pollution insurance policies and that the policies are with AIG. The officials said that reimbursement is provided under a separate contractual agreement and that the reason for having these policies is to comply with state regulations requiring insurance. However, neither regarded these policies as insurance and both said their companies use the financial test to meet federal RCRA financial requirements. According to AIG officials, AIG also does not regard indemnified policies as insurance, and as of July 1987, they had fewer than 10 of these policies in effect.

There is no centralized data system documenting how pollution insurance premiums and coverage levels have changed for the about 4,000 TSDFs identified by EPA as currently operating RCRA facilities available to handle hazardous waste. However, federal and state RCRA program representatives indicated, on the basis of their experience and knowledge of facilities within their respective states and regions, that pollution insurance premiums have increased several fold over the past few years while the level of coverage has decreased substantially. We have no basis for evaluating the appropriateness of the changes in premiums and coverage because other factors at the facilities may have affected the changes (e.g., expanding operations or increasing levels of hazardous waste activity). However, the regulators said these changes in premiums and coverage are examples of the situation facing TSDFs.

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## **Insurance for Generators**

There are over 100,000 facilities identified by EPA as hazardous substance generators. However, a relatively small number of companies accounts for most of the hazardous substances generated nationwide. The Chemical Manufacturers Association (CMA) represents 167 companies that produce about 90 percent of the basic industrial chemicals in the United States. CMA told the Congress in March 1986 that commercial pollution insurance (both for gradual and for sudden pollution releases) for its member companies has disappeared altogether.<sup>1</sup>

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<sup>1</sup>Statement of CMA before the Senate Committee on Commerce, Science and Transportation, on the availability and cost of liability insurance, March 4, 1986

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Other industries are also experiencing difficulties obtaining commercial pollution insurance. For example, the National Association of Manufacturers, whose approximately 14,000 member companies account for 80 percent of our nation's manufactured output, is a potential market for pollution insurance because its member companies use toxic chemicals as product ingredients. An association official told us that while pollution insurance was not strictly unobtainable, it is difficult to obtain and very expensive. The National Association of Chemical Distributors, whose 280 member companies handle the movement and distribution of 25 percent of all manufactured chemicals, told us that pollution risk insurance is virtually unobtainable for its members.

CMA surveyed its members regarding past and present insurance availability and their insurance practices. Thirty-seven percent of its members (62 of 167 companies) responded to the survey conducted between February and June of 1987. The CMA summary results available to us indicated that 14 U.S.-based chemical companies had gradual pollution coverage under EIL policies in 1984; 4 had EIL policies in 1986, with much lower policy limits. Further, sudden and accidental pollution coverage was reduced in scope and became largely unavailable to the chemical industry in 1986.

From its survey results CMA concluded that insurers continue to demonstrate a reluctance to insure high-hazard liability risks; CMA also believes insurers will not insure chemical business in the near future. As an alternative, more chemical companies will have to self-insure pollution liabilities—a situation of greater concern to small and medium-sized chemical companies than to large ones.

We asked CMA to provide us with contacts among its member companies who would speak with us in detail about their experiences obtaining pollution insurance. We were told that individual companies were reluctant to do so because of concern about disclosing proprietary information that could hurt them competitively. However, CMA did identify officials of five chemical manufacturers who agreed to meet with us. All five told us that their companies have no true risk-transfer insurance for pollution risks. Two of the companies with TSD land disposal risks have fully indemnified policies to meet certain individual state requirements but generally use the financial test to meet their RCRA financial responsibility requirements. However, we have no way to assess the extent to which the reported experiences of these five companies mirror the rest of the industry.



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Surveys by the Risk and Insurance Management Society present similar results. This group, which represents about 3,800 companies, service firms, nonprofit institutions, and governmental entities, surveyed its members' insurance coverage for 1985 and 1986. Those who responded to the pollution portion of the surveys (16 percent and 7 percent, respectively, for those years) reported a sharp cut in availability of pollution insurance in 1985 and further reductions in 1986. They also noted a marked increase in premiums and deductibles, together with restrictions in coverage for the same period.

## **Insurance for Innovators of Waste- Reduction Technologies**

The rising costs of waste management and associated liabilities for waste disposal make waste reduction an increasingly more desirable objective. By reducing the generation of waste, industry can save waste treatment costs and achieve better protection for health and the environment. At present, the development of these alternative and innovative waste reduction technologies is primarily inhibited by economic factors other than the availability of insurance.

## **Economic Factors Cited as Primary Obstacle to Waste Reduction Effort**

Recent major studies have considered the impact of several economic factors, including insurance, on emerging waste reduction technologies. In a 1986 Office of Technology Assessment survey, industry representatives said that economic factors were the most significant barriers to waste reduction.<sup>2</sup> A 1986 EPA report to Congress noted that even though waste minimization practices often lead to cost savings in the long run, availability of capital in the short run for plant modernization is often a significant obstacle to their implementation.<sup>3</sup> A 1985 Congressional Budget Office report also found industry introducing only limited applications of waste-reduction technologies despite the long-term economic and environmental benefits of using them.<sup>4</sup> We reported in 1986 that the adoption of permanent treatment technologies at Superfund sites faces initial barriers more significant than insurance, including economic and

<sup>2</sup>Serious Reduction of Hazardous Waste for Pollution Prevention and Industrial Efficiency, OTA, September 1986.

<sup>3</sup>Minimization of Hazardous Waste, Executive Summary and Fact Sheet, EPA, October 1986.

<sup>4</sup>Hazardous Waste Management: Recent Changes and Policy Alternatives, Congressional Budget Office, May 1985.



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marketing uncertainties as well as a number of institutional, regulatory, and informational barriers.<sup>6</sup>

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**Insurance May Be an**  
**Obstacle in the Future**

Our examination of the Superfund Innovative Technology Evaluation Program, now underway at EPA, indicates that as technologies evolve and approach commercial application, the need for insurance may become more significant. EPA established the program in 1986 to accelerate the development, demonstration, and use of new or innovative technologies. These technologies are being tested on cleanup activities at Superfund sites, but they may be useful for routine waste reduction as well. In its program plan, EPA states that liability concerns of technology developers and potential commercial users can be an important obstacle to both the development and use of new hazardous substance treatment technologies. The program plan acknowledges that developers of innovative technologies may find that liability insurance to cover their operational risks during development and testing of those technologies is difficult or impossible to obtain.

We spoke with representatives of 11 of the original 12 demonstrators participating in the program to determine their insurance status. According to 7 of the 11 representatives, as of August 1987, one company left the program because pollution insurance was unavailable, three had liability insurance to cover their operational risks during development and testing of their technologies, and three are relying on EPA to provide contractor indemnification for the demonstrations.<sup>7</sup> Of the remaining four companies, one has decided to self-insure while the other three have not yet resolved how to cover their potential liabilities.

The experience of these demonstrators suggests that the lack of performance records for innovative technologies may create uncertainty about the long-term effectiveness of these new cleanup remedies. EPA officials responsible for the program told us that, because of this uncertainty, there may be a tendency within the insurance industry to impute a probability of failure to some alternative technologies. All participants

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<sup>6</sup>Hazardous Waste: EPA's Consideration of Permanent Cleanup Remedies (GAO/RCED-86-178BR, July 7, 1986)

<sup>6</sup>Superfund Innovative Technology Evaluation (SITE) Strategy and Program Plan, EPA, December 1986.

<sup>7</sup>SARA section 119 generally allows EPA to indemnify Superfund cleanup contractors for their liabilities due to negligence arising from site cleanup activities.

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said they are marketing or hope to market their technologies to the hazardous waste industry. At that point, a lack of appropriate pollution and product liability insurance may become a barrier to the commercial development of those innovative technologies.

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**Financial**  
**Responsibility Tests as**  
**an Alternative to**  
**Insurance**

With the passage of RCRA in 1976, the Congress required that EPA establish financial responsibility requirements to ensure that hazardous waste TSDFs have adequate financial resources to cover certain pollution liabilities. In response, EPA developed and implemented what it regards as minimum liability standards and identified financial responsibility mechanisms, including liability insurance, that TSDF owners or operators may use to demonstrate financial responsibility. In 1980, with the passage of CERCLA, the Congress expanded the mandate for financial responsibility requirements to include certain facilities not covered under RCRA or other federal law. Although by 1983 EPA had promulgated the regulations for TSDFs under RCRA, it has not established financial responsibility requirements for those classes of facilities covered by CERCLA financial responsibility provisions, which could include generators and innovators of waste-reduction technologies.

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**Liability Requirements for**  
**TSDFs**

EPA regulations developed pursuant to RCRA require that TSDF owners or operators maintain some specific financial responsibility for liabilities to third parties in case of bodily injury and property damages caused by sudden and/or gradual accidental pollution occurrences. EPA regulations allow TSDFs to demonstrate financial responsibility by any of the following mechanisms: insurance, financial test, corporate guarantee, combination of insurance and the financial test, or combination of insurance and a corporate guarantee. As table 3.1 shows, all TSDFs must maintain sudden accidental liability coverage of at least \$1 million per occurrence, with an annual aggregate of at least \$2 million. Additionally, land disposal facilities must maintain nonsudden (gradual) accidental liability coverage of at least \$3 million per occurrence, with an annual aggregate of at least \$6 million. The TSDFs may demonstrate liability coverage by using one of the specified mechanisms.

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**Table 3.1: RCRA Third-Party Liability**  
**Requirements for TSDFs**

**Sudden accidental occurrences**

An owner or operator of a TSDF must have liability coverage for at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs

**Gradual accidental occurrences**

An owner or operator of a land disposal facility must maintain at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs

**This liability coverage may be demonstrated by one of the following mechanisms:**

Liability insurance

Financial test<sup>a</sup>

Corporate guarantee<sup>b</sup>

Combination of insurance and financial test

Combination of insurance and corporate guarantee

<sup>a</sup>The financial test may be met by demonstrating either (1) a prescribed amount of working capital, tangible net worth, and U.S. assets or (2) a specified bond rating, a prescribed amount of tangible net worth, and U.S. assets

<sup>b</sup>A corporate guarantee is a written guarantee of liability coverage by the parent corporation of the TSDF owner or operator. To use this (1) the parent corporation must meet the financial test and (2) the state in which the parent corporation is incorporated and the state in which the demonstrating facility is located must report to EPA that the guarantee is legally valid and enforceable in that state

As mentioned earlier, there is no centralized data system at the federal level that identifies the frequency with which TSDFs use the different financial options to demonstrate financial responsibility. However, most federal and state representatives responsible for administering the RCRA program in the 15 states contacted during our review told us that the financial test was the option most often used to meet the RCRA requirements.<sup>8</sup> Insurance was cited as the second most often used option. These program representatives pointed out that smaller companies, in particular, are having a difficult time due to high insurance premiums and an inability to meet the financial test requirements.

To pass the financial test specified in EPA regulations, facility owners must demonstrate that they have sufficient assets to cover their potential liability for sudden or sudden and gradual occurrences. In lieu of an insurance policy, the owners must submit financial statements from an independent auditor to state representatives responsible for administering the RCRA program.

In addition to insurance and the financial test, RCRA regulations allow the use of a corporate guarantee, a combination of insurance and the

<sup>8</sup>The 15 states we contacted are Alabama, California, Colorado, Connecticut, Illinois, Indiana, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, and Texas

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financial test, and a combination of insurance and a corporate guarantee. According to RCRA program representatives in the 15 states we contacted, very few TSDFs presently use the combination of mechanisms to satisfy the RCRA requirements. As of June 1987, 12 of the 15 states contacted allow the use of corporate guarantees. Other states are expected to allow the use of this option in the near future. EPA Region IV officials estimated that only about 14 percent of the facilities in the region, all located in Alabama, are currently using corporate guarantees.

Most TSDFs claim that they are able to meet RCRA financial responsibility requirements, even with the current general unavailability of pollution insurance. For instance, on November 8, 1985, TSDFs that were operating land disposal facilities had to certify compliance with RCRA groundwater monitoring and financial responsibility requirements. Of the 1,538 land disposal facilities operating at that time, only about 60 of the facilities failed to certify compliance with the financial responsibility requirements (Approximately 1,000 of the 1,538 facilities failed to meet groundwater monitoring requirements and have been ordered closed.) An official of one major commercial disposal company told us that hazardous waste disposal companies use the financial test and corporate guarantee to demonstrate financial responsibility for closure, post-closure liability, and third-party liability requirements. He expressed concern that a company's corporate capacity to pass these tests may be strained as EPA issues other financial responsibility regulations using these tests for such programs as RCRA corrective action and CERCLA section 108(b). Because of these concerns, EPA and industry representatives have been meeting over the last year to discuss the adequacy of financial responsibility tests and to explore other options to ensure financial responsibility under environmental laws.

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**Liability Requirements for**  
**Others Have Not Been**  
**Implemented**

Section 108(b) of CERCLA mandated the development of financial responsibility requirements, consistent with the degree of associated risks, for certain classes of facilities that handle hazardous substances and are not covered under RCRA or other federal law. The act required that beginning not earlier than 1985, EPA promulgate financial responsibility requirements for those facilities. These requirements were to be phased in over a period of not less than 3 years and not longer than 6 years.

SARA amended these requirements in 1986 by adding that financial responsibility may be established by any one or any combination of the

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following, insurance, guarantee, surety bond, letter of credit, or qualification as a self-insurer. Further, it directed that the financial responsibility requirements contained in forthcoming regulations be phased in "as quickly as can reasonably be achieved but in no event more than 4 years" after the regulations are issued.

EPA, up until 1983, performed several studies to define the scope of these requirements in terms of who and what they would apply to, and to lay out a conceptual framework for all the possible things they could do. However, according to the EPA staff person in charge of this effort, the work was stalled in 1983 because of lack of funds. He also said that an attempt to renew the work in early 1987 was again halted by EPA in June 1987. According to the official, EPA has no plans or time frames for developing the regulations. As a consequence, EPA has not established a financial safety net to protect those who may be harmed from releases of hazardous wastes by other than the owners or operators of TSDFs.

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## Conclusions

Although a few insurance sources are currently offering pollution insurance, most TSDFs, generators with pollution risks, and innovators of waste-reduction technologies are not now obtaining commercial pollution insurance and are operating without this coverage. EPA has implemented regulations under RCRA that set minimum financial responsibility requirements for TSDFs. In the absence of insurance, the requirements ensure that these facilities have at least a minimum level of internal financial resources to cover pollution liabilities, such as those involving third-party bodily injury and property damage.

EPA has not, however, established similar requirements under CERCLA for other classes of facilities with potential pollution liabilities. Given the general unavailability of insurance to cover risks associated with hazardous substances, it is critical that EPA develop and implement the 1980 CERCLA financial responsibility requirements for the potentially broad range of facilities covered by CERCLA section 103(b).

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## Recommendation to the Administrator, EPA

We recommend that the Administrator, EPA, establish specific milestones leading to the timely implementation of financial responsibility regulations for the risks associated with classes of facilities that EPA determines are covered by CERCLA section 108(b).

## Chapter 4

# Legal Liability Standards and Remedies for Cleanup and Compensation

CERCLA was enacted to ensure the cleanup of the nation's abandoned hazardous waste sites. CERCLA liability standards, which were designed to facilitate actions by the federal government to compel cleanup and recover cleanup costs, have been consistently upheld by federal courts. However, the act does not address the need to compensate persons harmed by hazardous substance releases. For the most part, persons seeking redress for bodily injury or property damage bear the burden of proving liability under varying state laws. While changes brought about in some state courts have made it easier for alleged victims to seek compensation, in other states recent tort reform legislation may have made it more difficult.

Many major property/casualty insurers claim that the application of liability standards associated with cleanup under CERCLA is an extreme impediment to the availability of pollution insurance. They maintain that these standards create the likelihood that an insured's conduct will bear no relationship to the extent of his liability, thus making it impossible for insurers to predict pollution losses. Regarding compensation for bodily injury and property damage under state common law, insurers maintain that new theories of liability, new forms of recovery (such as for medical monitoring and impaired quality of life), and changes in statutes of limitations also undermine the predictability needed to underwrite pollution risks. In 1985, insurers reported to us that they made relatively modest amounts of claim payments involving pollution incidents, but that several thousand pollution claims had not been settled. Insurers assert that the value of these open claims and other future pollution claims could severely strain their capacity to write property/casualty insurance in the future.

The extent to which insurers may be held liable for the cleanup of old waste sites under CERCLA hinges on court interpretations of disputed insurance contract provisions. Regarding current and future TSDFs, however, RCRA established a program to manage hazardous waste from "cradle to grave" that should make it easier for insurers to underwrite pollution risks. The objective of this program is to ensure that hazardous waste is handled in a manner that protects human health and the environment. In addition, the program established specific technical standards for the design and safe operation of TSDFs.

This chapter discusses the liability standards faced by parties involved with hazardous wastes. Chapter 5 discusses how the courts are applying these liability standards to the parties' insurers through interpretation.



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of insurance policies. Chapter 6 presents data on the number and value of pollution claims paid by insurers in 1985.

## Liability Standards and Remedies Under CERCLA

CERCLA's authority focuses on cleanup of hazardous waste sites that are characterized as abandoned or uncontrolled. Under CERCLA, responsible parties are held liable to clean up the sites themselves or to reimburse the government for expenses incurred in cleaning up the sites or mitigating losses to natural resources. This liability is retroactive, since responsible parties include not only any present owner or operator of the site but also any past owner or operator of the site at the time of disposal, transporters of hazardous substances who selected the site, and the generators of the substance. Although CERCLA does not provide redress for injuries or damages, it does establish the period of time in which an injured party may seek compensation under state law.

Since the enactment of CERCLA, courts have consistently upheld its broad standards of liability and causation. The following three standards were designed to make it easier for the government to seek cleanup by eliminating certain requirements for proof on the part of the federal government.

Strict liability Courts have consistently held that CERCLA imposes strict liability, meaning that the government need not prove negligence, or failure to exercise due care, in order for defendants to be liable for cleanup costs. As a result, both current and past owners and operators of hazardous waste sites are liable for cleanup regardless of whether they caused the presence or release of the hazardous substance. In addition, generators who arranged for disposal or treatment are liable even if they did not select or were not aware of the site chosen for disposal. Transporters who selected a disposal site and carried substances to it are also considered liable even though they did not cause the release.

Joint and several liability Although a number of parties may have contributed to the presence of hazardous wastes at a site, courts, under this standard, have ruled that the government can hold one responsible party liable for the entire costs of cleanup, not just for that portion that can be attributed to that party's wastes. As illustrated in the CERCLA case of United States v. Chem-Dyne Corp.,<sup>1</sup> joint and several liability is appropriate for most CERCLA cleanups because wastes have been commingled and it is difficult to establish "a reasonable basis for division

<sup>1</sup>572 F.Supp. 802 (S.D. Ohio 1983)



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according to the contribution of each."<sup>3</sup> As the court noted, only if the harm is divisible and there is a reasonable basis for apportionment of damages will each defendant be liable for the portion of harm he himself caused. Further, courts, as in the CERCLA case of United States v. South Carolina Recycling and Disposal,<sup>4</sup> rejected the notion that relative volumes of waste that generators contributed to a site could be used as a means of apportioning liability.

**Causation.** Under CERCLA, a generator may be held liable for cleanup even without a specific determination that the generator's wastes were among the hazardous materials released at a site. Following a district court case in 1983, other districts have adopted a causation test that requires demonstrating only that a generator's wastes were sent to a site, that its wastes were at the site at the time of release, and that a hazardous substance was released and cleanup costs incurred.<sup>5</sup>

## Effect of CERCLA Liability Standards on Insurability and Standards of Care

Under a negligence standard in lieu of strict liability, the government would have to demonstrate that one or all of the parties that caused the presence of hazardous wastes had been negligent, or had failed to exercise an appropriate standard of care. Further, even if the government were able to prove negligence, in the absence of joint and several liability, it would have to locate all responsible parties and could recover their proportionate share of cleanup costs only from those that were financially solvent, any remaining cleanup costs would have to be borne by the government.

Because CERCLA's strict, joint and several liability standards apply to any party responsible for the presence of hazardous wastes at a site, regardless of the extent of wastes contributed or the care taken to prevent contamination, the federal government can more easily seek cleanup than if it had to prove liability under other standards, such as negligence. Using an extreme example, a generator who disposed of one barrel of waste material at a land disposal facility 30 years ago could now be liable for all cleanup costs resulting from gradual seepage of wastes during the past 20 years. In practice, this extreme situation is

<sup>3</sup>572 F. Supp. at 811.

<sup>4</sup>14 E.L.R. 20,272 (D.S.C. 1984).

<sup>5</sup>United States v. Wade, 577 F. Supp. 1326 (E.D. Pa. 1983). See also United States v. South Carolina Recycling & Disposal, Inc., 14 E.L.R. 20,272 (D.S.C. 1984).

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not likely to take place. SARA section 122 includes a provision for settlement with *de minimis* (very small) contributors and also includes provision for the use of nonbinding allocations of liability among responsible parties in order to expedite the apportionment of CERCLA site cleanup costs. In addition, SARA section 113 provides that in resolving contribution claims, "the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate."

Insurers assert, however, that CERCLA's liability standards make it impossible to define risks, predict losses, and establish appropriate premiums for insuring companies involved with hazardous wastes, since a policyholder could become involved in a joint and several liability situation through the conduct of another party. Depending on how the liability is applied, an insurer could find itself providing coverage for the conduct of persons other than its policyholder. For example, insurers cite their concern that generators who dispose of their hazardous wastes at common disposal facilities could become jointly and severally liable if the disposal facility did not have adequate resources to remedy releases that cause off-site property damage and bodily harm.

We believe, however, that the difficulties in predicting how CERCLA's joint and several liability may be applied have more to do with past insurance policies and losses related to previously unmanaged waste than with current or future policies. As noted earlier, RCRA requires all hazardous wastes to be stored or disposed of at permitted facilities whose owners and operators must meet federal standards of care to assure that hazardous wastes are handled in a manner that protects human health and the environment. Additionally, a generator and its insurer will not risk liability at a common disposal facility unless the facility owners/operators do not have adequate resources to cover their liabilities. Owners/operators must carry a minimum amount of insurance coverage or meet some other financial means test to cover liabilities associated with the facility's operation and its subsequent closure and post-closure care.

Insurers go on to assert that CERCLA's standards of liability not only have reduced the availability of pollution insurance, but also have affected the standard of care owed by generators, transporters, and owners/operators of TSDFs. They maintain that the liability standards undermine these parties' incentives to exercise due care to prevent pollution because the standard of care is not related to the potential for liability. However, an official of the largest commercial waste disposal

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firm told us that standards of liability have in fact increased the standard of care taken by the industry. He told us that some of the larger generators are now investing in expensive equipment and facilities for their own on-site treatment and disposal facilities. Such generators can then keep total control of their waste and would not be subject to joint and several liability. Smaller firms that cannot afford the expensive outlays necessary for their own hazardous waste facilities are looking to commercial facilities that practice standards of care that will keep the generators free from this liability. He also told us that disposers are seeking additional ways to reduce the impact of CERCLA liability. He noted that his firm was developing innovative disposal technologies and working with generators to reduce their waste output.

A CMA official told us that CERCLA's standards of liability do not play a role in its member companies' standard of care. He said, "CMA members place the health and safety of their workers and the public as their highest priority." It should also be noted that the one insurer marketing pollution insurance (AIG) offers insurance only to companies that demonstrate that they exercise an appropriate standard of care through detailed risk assessments and risk management practices.

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**Victim Compensation**

With the exception of several laws that provide compensation to victims under special circumstances—coal miners suffering from black lung disease, for example—federal law does not provide remedies for personal injury or damage due to hazardous substances. Persons alleging harm from hazardous waste must seek compensation under tort law (the body of law dealing with wrongful acts) in individual states. Although the Congress considered the appropriateness of federal victim compensation during deliberations in enacting the 1980 CERCLA and when first seeking to reauthorize the act in 1984, it decided against such provisions. However, in 1986 the Congress used SARA to standardize one element of state tort law by extending the period of time allowed for bringing action for injury or damages resulting from hazardous waste contamination.

Under state statutes of limitation, plaintiffs must bring suit within a certain period of time, generally ranging from 1 to 3 years, from when some action occurs. Before 1986, some states still considered this period to begin at the time of exposure. However, since illnesses brought on by exposure to hazardous materials typically have long latency periods, the statutory limitation periods could run out before the injury is discovered. SARA provided a federal statute of limitations setting the commencement date for state statutory limitation periods as no earlier than

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the date on which the injury was discovered to be attributable to a hazardous substance.<sup>6</sup>

## **Bodily Injury and Property Damage Remedies Under State Law**

In addition to federal requirements, 17 states have enacted hazardous waste cleanup laws, generally resembling CERCLA, with funds for emergency cleanup of hazardous substance spills.<sup>6</sup> However, although Florida and New Jersey provide a fund for property damage, neither these laws nor federal law provides remedies for personal injury. Laws in two other states specifically provide for persons harmed by hazardous substances, but for the most part, alleged victims must seek redress for bodily injury or property damage under state common law.

## **State Common Law Remedies**

Common law has evolved over time in each of the individual states. Under common law, someone seeking remedies for personal injury or property damage due to hazardous wastes must fit his or her case into the traditional causes of action—negligence, trespass, nuisance, and strict liability. These causes of action are not easily adapted to hazardous waste cases, in which there may be more than one responsible party and in which long periods of time may elapse before the injury is discovered.

For example, in a negligence action, the victim must demonstrate that he or she sustained an injury, that the injury was caused by a release of a hazardous substance, that the defendant had a duty to conform to certain standards of conduct to avoid risks to others, and that those standards were not met. Actions based on nuisance and trespass, used to obtain a remedy for harm to property, must prove interference with the victim's property use or possession. In an action based on strict liability, the victim must prove that the defendant was engaged in an ultrahazardous or abnormally dangerous activity, where risk of serious public harm could not be eliminated by the exercise of care.<sup>7</sup>

<sup>6</sup>SARA sec. 203, CERCLA sec. 309, as amended

<sup>6</sup>These 17 states are Alabama, Arizona, Colorado, Connecticut, Florida, Georgia, Illinois, Louisiana, Maryland, Michigan, New Hampshire, New Jersey, New Mexico, North Carolina, Pennsylvania, Tennessee, and Wisconsin

<sup>7</sup>Several New Jersey cases have declared hazardous waste activities to be abnormally dangerous activities. See *Kennedy v. Scientific, Inc.*, 204 N.J. Super. 228, 497 A.2d 1310 (Super. Ct. Law Div. 1985), and *New Jersey Dept. of Env'tl. Protection v. Ventron Corp.*, 94 N.J. 473, 468 A.2d 150 (1983).

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A 1982 congressionally directed study examining legal remedies and barriers to recovery found that persons harmed by hazardous wastes face substantial barriers in an action to recover damages for personal injury or property damage.<sup>8</sup> The principal barriers had to do with statutes of limitation, proof of causation, and apportionment of damages among multiple defendants. As noted earlier, SARA modified one of these barriers by changing the commencement date under state statutes of limitation from the time when injuries are caused to the time when they are discovered and connected with exposure to a toxic substance. However, proving causation and apportioning damages among several responsible parties remains difficult for those seeking remedies for hazardous waste injuries under state common law.

Because long periods of time may pass before injuries are discovered, persons harmed by a hazardous substance may face a formidable task in attempting to demonstrate the causal connection between a hazardous substance and their injuries or damages. Responsible parties must be identified, and documents and witnesses necessary for evidence must be located, including evidence of the hazardous substance and the victim's exposure to it. The injuries may not be clinically visible and may therefore be difficult to measure and prove. Persons harmed by hazardous substances must also be able to prove that their injuries were not caused by other factors, such as cigarette smoking. Finally, proving causation may require considerable medical and scientific testimony to demonstrate the epidemiological or statistical correlation between environmental exposure and the onset of illness. According to the previously cited study, the costs of providing this information can be a significant barrier to recovery for injuries.

Persons harmed by hazardous substances are also hampered by the fact that several parties may have stored or disposed of hazardous wastes at the site in question. Under common law, alleged victims have the burden of proving that a defendant's conduct was a substantial factor in the cause of injury. Thus, when a number of parties disposed of hazardous wastes, whether acting in concert or not, it may be impossible to demonstrate that any one defendant contributed substantially to the injury.

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<sup>8</sup>Injuries and Damages from Hazardous Wastes--Analysis and Improvement of Legal Remedies. A Report to Congress in Compliance with Section 301(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (PL 96-510) by the "Superfund Section 301(c) Study Group." September 1982. The study group was made up of attorneys from the American Bar Association, the American Law Institute, the Association of American Trial Lawyers, and the National Association of State Attorneys General.



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## **Court Decisions in Hazardous Waste Cases**

Nationwide, there have been relatively few published decisions in hazardous waste cases, possibly because many of the suits filed are still in litigation or have been settled out of court.<sup>9</sup> However, courts have allowed persons harmed by hazardous wastes to seek recovery for mental or emotional distress, immunological damage, impaired quality of life, and for medical monitoring. In addition, courts have allowed new types of evidence of causation and new methods of apportioning damages in analogous cases involving product liability that might have some bearing on future hazardous waste cases.

Insurers maintain that these developments constitute an evolution and expansion of liability that undermine their ability to predict losses. They assert that many underwriters fear that liability concepts developed in one jurisdiction could be adopted in other jurisdictions, thereby rendering invalid the loss estimates upon which insurance contract coverages were originally based.

## **Recovery for Mental or Emotional Distress**

Traditionally, common law has limited recovery for emotional or mental distress, such as sleeplessness, weight loss or gain, and fear of cancer, to cases that can be supported by evidence of physical impact or bodily injury. That is, in some jurisdictions, courts require plaintiffs claiming mental distress to demonstrate that some physical impact occurred. For example, in the case of mental distress resulting from an auto accident, the automobile must actually have struck the plaintiff. In other jurisdictions, plaintiffs must support their mental distress claim with evidence of a bodily injury, with or without impact.

Recently, however, courts have allowed plaintiffs in hazardous waste cases to make claims for mental or emotional distress without such evidence. In a 1987 case involving a seaman who was accidentally soaked with toxic chemicals, the Fifth Circuit Court of Appeals rejected the physical injury or impact requirement. With or without physical injury or impact, the court ruled, the plaintiff was entitled to recover damages for mental distress arising from fear of cancer, so long as his fear was reasonable and causally related to the defendant's negligence.<sup>10</sup>

<sup>9</sup>Although they involve toxic or hazardous wastes, we generally did not look at cases involving worker exposure, which are covered by different laws and legal principles.

<sup>10</sup>*Hagerty v. L & L Marine Services*, 788 F.2d 315 (5th Cir. 1987). The court noted that, in any event, the plaintiff could have satisfied either requirement since he did suffer an injury from the drenching, which constituted an impact.

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Other courts have also accepted claims based on fear of cancer. In a California case, for example, pesticide workers were allowed to maintain a suit for emotional distress induced by a fear of cancer, based solely on evidence of exposure to a toxic substance and evidence that the substances pose substantial cancer-causing risks.<sup>11</sup> In Sterling v. Velsicol,<sup>12</sup> plaintiffs were awarded damages for fear of cancer, but in this case, physical evidence of injury to their livers and kidneys was used to establish the reasonableness of their fears.

Elsewhere, courts that still require evidence of physical injury have allowed plaintiffs to use evidence of exposure to the hazardous substance by breathing or ingestion. In Laxton v. Orkin Exterminating Co.,<sup>13</sup> for example, the Tennessee appeals court upheld the trial court's ruling that the plaintiffs had sustained a "technical physical injury" if it could be demonstrated that they had ingested any amount of the pesticide chlordane.

#### Recovery for Subcellular Damage

In two cases courts have allowed plaintiffs to seek recovery for subcellular damage (damage below the level of the cell) that is not readily observable and currently symptomatic. In the first case, a suit filed by residents of Woburn, Massachusetts, the federal district court ruled that although not visible or obvious, immune system damage could nevertheless be considered a physical injury and therefore compensable.<sup>14</sup> In another case involving exposure to radon gas, the court held that the plaintiffs' alleged chromosomal damage, if proven, could constitute a present physical injury.<sup>15</sup>

#### Recovery for Impaired Quality of Life

In a 1985 case, affirmed by the New Jersey Supreme Court in 1987, a New Jersey court upheld a jury award of damages for infringement upon the victims' quality of life. In this case residents of Jackson Township had been unable to use their well water because it was contaminated. Their inability to obtain water from their own wells, the judge

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<sup>11</sup> Arnett v. Dow Chemical Co., No. 72-9588 (Cal. Super. Ct. 1983)

<sup>12</sup> 647 F.Supp. 303 (W.D. Tenn. 1986)

<sup>13</sup> 639 S.W.2d 431 (Tenn. 1982)

<sup>14</sup> Anderson v. W.R. Grace & Co., 628 F.Supp. 1219 (D. Mass. 1986)

<sup>15</sup> Bratford v. Susquehanna Corp., 586 F.Supp. 14 (D. Colo. 1984)



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ruled, was an invasion of the plaintiffs' property interests, and their inconvenience, annoyance, and discomfort were compensable.<sup>16</sup>

**Recovery for Medical Monitoring**

Because the symptoms of exposure to hazardous substances can take long periods of time to develop, persons alleging harm from hazardous substances have sought to recover the costs of medical monitoring. In several cases involving plaintiffs exposed to carcinogens, the courts have permitted this claim, allowing as compensation the costs of physician fees and testing.

In the case involving Jackson Township,<sup>17</sup> the New Jersey Supreme Court ruled that the cost of medical surveillance is a compensable item of damage. Because the plaintiffs had used reliable expert testimony to prove the significance and extent of their exposure, the toxicity of the chemicals, the seriousness of the diseases for which they were at risk, and the value of early diagnosis, the court ruled that surveillance to monitor the effect of exposure was reasonable and necessary. Similar decisions were reached in court cases in Pennsylvania,<sup>18</sup> New York,<sup>19</sup> and the Fifth Circuit Court of Appeals.<sup>20</sup>

**New Theories of Causation**

Persons alleging harm from hazardous substances must overcome a difficult evidentiary burden in proving that their injuries were the result of exposure to a hazardous substance. Although courts have been reluctant to accept epidemiological studies showing statistical relationships between diseases and various causative factors, they have more recently allowed their use as evidence. For example, epidemiological studies were used as evidence in suits brought against tampon manufacturers by persons alleging harm from toxic shock syndrome<sup>21</sup> and in suits brought against manufacturers of swine flu vaccines.<sup>22</sup> Also, in one

<sup>16</sup>Ayers v. Township of Jackson, 202 N.J. Super. 106, 493 A.2d 1314 (1985), aff'd, No. A-83184, slip. op., N.J., May 7, 1987.

<sup>17</sup>Ayers v. Township of Jackson, No. A-83184, slip. op., N.J., May 7, 1987.

<sup>18</sup>Habitants Against Landfill Toxicants v. City of New York, 15 E.L.R. 20937 (1985).

<sup>19</sup>Askey v. Occidental Chemical Corp. 102 A.D.2d 130, 477 N.Y.S.2d 242 (1984).

<sup>20</sup>Hagerty v. L. & L. Marine Services, 788 F.2d 315 (5th Cir. 1987).

<sup>21</sup>See, for example, Ellis v. International Playtex, Inc., 745 F.2d 202 (4th Cir. 1984).

<sup>22</sup>See, for example, In re Swine Flu Immunization Products Liability Litigation, 508 F.Supp. 897 (D. Colo. 1981), aff'd sub nom., Lima v. United States, 708 F.2d 502 (10th Cir. 1983).

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of the highly publicized Agent Orange suits, brought against the manufacturer of the herbicide by Vietnam War veterans and their families, a New York district court found that epidemiological studies were the "only useful studies having bearing on causation."<sup>23</sup> In this case, however, the studies concluded that there was no evidence that the veterans' exposure to Agent Orange led to their health problems.

### Alternative Theories of Liability

Several theories of liability have been developed, some just in recent years, that alleviate the plaintiff's burden of identifying the responsible defendant in cases where there are two or more defendants. Although none of these theories has yet applied in a hazardous waste case, they have been used in analogous cases and therefore might be available to persons seeking to show harm from hazardous waste. Each theory has certain distinct requirements that might limit its usefulness, however. These alternative liability theories are:

- Concert of action. Under this widely accepted theory in tort law, if the plaintiff can show that the defendants acted together in furtherance of a common plan, they are jointly and severally liable for all injuries to the plaintiff, without regard to which defendant actually caused the harm. In a case against a manufacturer of DES (diethylstilbestrol), a cancer-causing drug, the plaintiff was not able to identify the specific brand of DES ingested, but the defendant was held liable under the concert of action theory because there was evidence that the manufacturers of DES had joined in some form of common action. The finding of concerted action was based on the original cooperation by DES manufacturers in the approval process to market DES: pooling data, agreement on the same basic chemical formula, and model literature to be used as the package insert for joint submission to the Food and Drug Administration.<sup>24</sup> Because of the difficulty of proving a common action in a hazardous waste case, however, which could involve disposers, generators, and prior and subsequent landowners, among others, acting at different times, this theory might have only limited utility.
- Alternative liability. Also a widely accepted theory, alternative liability allows a plaintiff to recover, even though it may not be known which of several defendants (not acting in concert) actually caused the injury. The theory was developed in a 1948 case in which two hunters shot at

<sup>23</sup>In re "Agent Orange" Product Liability Litigation, 611 F.Supp. 1223, 1231 (E.D.N.Y. 1985).

<sup>24</sup>Biehler v. Eli Lilly & Co., 436 N.Y.S.2d 625, *aff'd*, 436 N.E.2d 182 (N.Y. 1982).

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the same time, one shot accidentally hit the plaintiff. The plaintiff, however, could not determine which hunter had fired the wounding shot. Rather than requiring the plaintiff to determine the responsible hunter, the alternative liability theory shifted the burden to each hunter to prove that his bullet was not the one that injured the plaintiff. Here too, however, this theory may be of only limited use in hazardous waste cases, since plaintiffs must still prove that all of the defendants were negligent.

- Enterprise liability More recently developed, enterprise liability combines features of both concert of action and alternative liability theories. It allows the burden of proof of causation to be shifted onto the defendants in cases where companies followed an industry-wide practice that the defendants knew to be harmful and that could have been avoided. Enterprise liability might be applied in a hazardous waste case by treating a particular waste site as an enterprise and apportioning liability among defendants on the basis of the volume and toxicity of the wastes they disposed of at the site. However, it would likely prove difficult, if not impossible, to measure the relative toxicity of each defendant's share, a problem that would be further complicated if the defendants included facility operators, landowners, and transporters as well as hazardous waste generators. For the same reason—a variety of types of defendants—it might not be possible to demonstrate a common practice.
- Market share liability Under this theory, a plaintiff may sue some portion of the manufacturers of a particular product, so long as they represent a substantial percentage of the market. Like alternative liability, the theory has been applied in cases where it is unclear which of several defendants is directly responsible for the injury. The difference between the two theories is that instead of being held jointly and severally liable (or fully responsible for the entire injury), under market share liability, each defendant is liable in proportion to its share of the industry market. In another DES case, the plaintiff, unable to name the manufacturer of the pills her mother had ingested that had caused her cancer, sued 11 of the 200 companies that had manufactured DES.<sup>26</sup> The court applied the market share liability theory, requiring each defendant to prove that it had not produced the DES used by the plaintiff's mother. Unable to do so, each defendant was found liable for a percentage of the plaintiff's injury based on its share of the market for DES. Thus, for example, if the manufacturer had sold 10 percent of all DES sold, it was responsible for that portion of the plaintiff's injury. Although a hazardous waste site might be considered a "market" under this theory, it would still prove

<sup>26</sup>*Sindell v. Abbott Laboratories*, 26 Cal. 3d 588, 163 Cal. Rptr. 132; 607 P.2d 924 (1979) cert. denied 449 U.S. 912 (1980).

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difficult to apportion liability because of the different types of parties involved (generators, operators, etc.) and the different types and toxicity levels of the substances stored at a single site.

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**Victim Compensation**  
**Statutes**

Recognizing the difficulties facing plaintiffs in common law suits, four states—California, Florida, Minnesota, and New Jersey—have enacted legislation to provide compensation to victims of hazardous substances.

Minnesota's 1983 victim compensation law holds any person responsible for the release of a hazardous substance to be strictly liable for all economic damages, as well as for death, personal injury, or disease resulting from the release. The act defines damages for personal injuries and death to include the costs of medical treatment, rehabilitation, burials, loss of income, and pain and suffering. Although the Minnesota law originally held responsible parties jointly and severally liable, this provision was repealed in 1985.

The Florida and California statutes create state compensation funds for victims who are unable to seek compensation from the responsible party. The California Hazardous Substances Account Act, enacted in 1981, provides compensation to victims either because they cannot identify the source of the hazardous substance, or because the responsible party is insolvent. In these cases, victims may be compensated for all of their uninsured medical expenses and up to a certain amount of income lost as a result of physical injuries or property damage. The fund is comprised of taxes levied against hazardous waste handlers in California.

The Florida Hazardous Waste Management Trust Fund, established in 1980, is a cleanup fund that also provides compensation for real or personal property damage resulting directly from the release of hazardous substances. In both Florida and California, persons alleging harm from hazardous substances may also attempt to obtain any remedies available under common law. If another party is subsequently found liable, the liable party must reimburse the state fund.

New Jersey's Spill Compensation and Control Act, enacted in 1976, provides a fund for cleanup as well as the payment of real and personal property damage. Liability under the New Jersey law is strict; and after paying out damages to the victim, the fund may seek recovery from the responsible parties.

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## Tort Reform Legislation

At the same time that court decisions and a few state laws have made it somewhat easier for persons alleging harm from hazardous waste to attempt to recover for damages and injuries, a number of states have enacted legislation that may make it more difficult to obtain compensation. A growing number of states have in the last couple of years enacted so-called tort reform legislation that changes tort law doctrines, such as joint and several liability and punitive damages, and sets limits on noneconomic damages and attorneys' fees. In particular, these states have moved to limit

- joint and several liability, so that plaintiffs must prove liability of each defendant,
- punitive and noneconomic damages, thus restricting the amount that the victim can receive, and
- attorneys' fees to hold down costs

With these changes, it could become more difficult for persons alleging harm from hazardous substances to receive compensation because (1) they must prove the liability of each defendant, (2) their award will be limited by a cap, and (3) it may be more difficult to obtain legal counsel with a limit on the amount of compensation that can be earned.

Table 4.1 shows that for 1986 and 1987, 24 states had enacted legislation to modify or abolish joint and several liability, although 9 made exceptions for pollution cases. Also, 12 states placed a cap on noneconomic damages, limiting the maximum award victims can receive for such damages as pain and suffering and emotional distress. Four states placed limits on attorneys' contingency fees. Limits on punitive damages were also established in 17 states in 1986 and 1987.

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**Table 4.1 Tort Reforms Enacted in 1986  
and 1987**

State	Abolish/ modify joint and several	Limit		Attorneys' fees
		Punitive damages	Non- economic damages	
Alabama		X	X <sup>a</sup>	
Alaska	X	X	X	
Arizona	X <sup>b</sup>			
California	X			
Colorado	X	X	X	
Connecticut	X			X
Florida	X <sup>b</sup>	X	X <sup>c</sup>	
Georgia	X	X		
Hawaii	X <sup>b</sup>		X	X
Idaho	X <sup>b</sup>	X	X	
Illinois	X <sup>b</sup>	X		X
Iowa		X		
Kansas		X	X	
Louisiana	X			
Maryland			X	
Michigan	X			
Minnesota		X	X	
Missouri	X	X		
Montana	X			
New Hampshire		X	X	X
New Mexico	X			
New York	X <sup>b</sup>			
Nevada	X <sup>b</sup>			
North Dakota	X	X		
Oklahoma		X		
Oregon	X		X	
South Dakota	X	X		
Texas	X <sup>b</sup>	X		
Utah	X			
Virginia		X		
Washington	X <sup>b</sup>		X	
Wyoming	X			

<sup>a</sup>Applies only to medical malpractice cases

<sup>b</sup>Excludes pollution cases

<sup>c</sup>The 1986 enacted cap was struck down by the state court in 1987

Source: Table based on data supplied by the American Tort Reform Association



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These reforms limit the ability to seek recovery for injuries or property damage differently, which could result in victims' receiving different compensation for similar harm in different states. However, the impact of these changes on insurance claims payments for victim compensation is unclear. Our work on medical malpractice insurance, which is also affected by state initiatives in tort reform, led us to conclude that few state tort reforms were perceived as having a major effect on claims or awards.<sup>26</sup> We found that virtually every state, in response to the mid-1970s malpractice insurance crisis, enacted legislation modifying one or more aspects of its tort law governing medical malpractice. Although some of these reforms have since been declared unconstitutional, repealed, or allowed to expire, our report concluded that, with few exceptions, tort reforms have not had a significant impact on the number of claims filed, size of awards, or cost of insurance.

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## Conclusions

Insurers claim that CERCLA's liability standards, particularly joint and several liability, are an extreme impediment to the availability of pollution insurance. We believe that this may overstate the impact of these standards on current and future facilities that handle hazardous wastes. For instance, insurers have told us that they are concerned that generators who dispose of their hazardous wastes at a common disposal facility could become jointly and severally liable if the disposal facility did not have adequate resources to clean up its site and the site became eligible for cleanup under CERCLA. We recognize that some currently regulated disposal facilities may possibly become future CERCLA sites. However, RCRA regulations now prescribe the standards of care that must be followed by all hazardous waste facilities, and they require evidence of financial responsibility on the part of all owners and operators who are fully liable for hazardous waste releases at their facilities.

Moreover, although CERCLA's standard of strict, joint and several liability (which was designed to facilitate the cleanup of the nation's hazardous waste sites) holds persons connected with hazardous waste liable for hazardous waste releases, the extent to which their insurers will be held liable is still being decided in the courts (as discussed in ch. 5). It is therefore uncertain whether the insurers' financial capacity to write new insurance will be substantially affected by CERCLA cleanup costs.

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<sup>26</sup>Medical Malpractice: No Agreement on the Problems or Solutions (GAO/HRD-86-50, Feb. 24, 1986).



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Regarding compensation for bodily injury and property damage caused by pollution, there is little information available on the number of persons who may have actually been harmed by hazardous waste and there are relatively few published court decisions in victim hazardous waste cases. In this area, too, it is unclear how legal changes affecting alleged hazardous waste victims have affected insurance availability. Indeed, the majority of changes that have occurred at the state level were intended to limit liability. On the other hand, the willingness of some courts to permit recovery by persons seeking compensation for harm from hazardous substances—whether on new theories and types of evidence or on theories and evidence which had earlier been rejected, represents a significant change.

Whether persons harmed by hazardous substances will find it more or less difficult to obtain recovery in the future will depend largely on courts' decisions and whether other state legislatures follow suit by enacting legislation to limit liability. However, with the exception of the federal rule for commencement of state statutes of limitations, victims' legal remedies vary under state law. If the number of perceived victims becomes substantial or if they are believed to be unfairly compensated, it may be appropriate for the Congress to consider again the issue of remedies for victims under federal law, which could include modifying state rules governing proof of causation and apportionment of damages.

# Judicial Trends in the Interpretation of Insurance Contracts

Contract interpretation in pollution liability cases is currently unsettled. In the last two decades, the language used in standard commercial liability insurance contracts has undergone several changes and additions. In judicial decisions involving insurance contracts in pollution liability cases, the courts in recent years have focused on several key contract terms in resolving at least four common issues. They have often interpreted the key contract terms in different (and even opposite) ways—sometimes favoring the insurer, sometimes favoring the insured party.

According to representatives of the insurance industry, courts are interpreting insurance contracts far more broadly than the insurers intended (such as with regard to on-site cleanup costs), thereby holding insurers liable to pay large claims on risks that they never intended to insure and for which they have collected no premiums. Insurers believe that these broad interpretations expressly ignore the plain meaning of insurance policies for perceived public policy reasons. Insurers cite this situation as being a major cause of their withdrawal from the pollution insurance market. With respect to future insurability of pollution risks, insurers also claim that court interpretations have made it extremely difficult for them to draft new policy language that would enable them to reenter the pollution liability market. Insurers maintain that this lack of uniformity has created an unsettled underwriting and pricing environment that is unlikely to diminish until the courts agree on the nature of coverage provided by insurers.

Judicial diversity of opinion is not surprising or uncommon when, as in this situation, various state and federal courts simultaneously apply previously uninterpreted contract language to new situations. Furthermore, the court cases applying this contract language to pollution liability have been brought only recently, and many are still being appealed. Given this situation, the case law in this area should be viewed as being in an embryonic state.

We believe that while uniformity of insurance contract interpretation has not emerged in cases applying such contracts to pollution releases, court decisions rendered so far have given insurers some basis on which to draft future pollution liability policy terms that would more clearly define intended limits of pollution coverage. Some changes that may help insurers in this regard are discussed at the end of this chapter.

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## The Development of Pollution Insurance: A Legal Perspective

Insurers have provided comprehensive general liability (CGL) policies for U.S. businesses since about the 1880s. Generally, under such policies, insurers agree to assume liabilities that befall the insured party due to accidental personal injury or property damage, relating to property, persons, and losses covered by the policy. Certain pollution-related liabilities were not specifically excluded until the late 1960s and early 1970s, when the nature and cost of chemical pollution became more evident.

At that time, insurers changed key words and terms in the CGL policies, and also added a "pollution exclusion" clause, which insurers now claim was intended to exclude coverage for pollution incidents that develop gradually and potentially involve high claims costs. These contract changes, which figure prominently in disputes between the insured and the insurer over contract coverage, are discussed in detail below.<sup>1</sup>

## Court Interpretations of Contracts in Pollution Insurance Cases

There are two primary reasons why the determination of coverage for damages due to hazardous substance releases have often ended up in the courts. First, CGL policies written prior to the 1970s often were not specific regarding coverage of pollution risks. Second, references to pollution risks that were specified in some later policies presented interpretive questions regarding hazardous substance releases. The litigation often involved coverage under CGL policies for

- claims for property damage or personal injury brought by persons alleging that the insured party caused such damage by their release of hazardous substances, and
- claims for the cost of cleaning up hazardous waste releases.

These suits over insurance contract coverage are generally subject to the laws and legal precedents of individual states.

Our review of relevant decisions found that courts have tended to focus upon certain key contract terms. In the subsections that follow, we focus on judicial decisions involving five key contract issues that have been important in defining contract coverage in pollution cases. These issues are:

<sup>1</sup> See also, Hazardous Waste, Toxic Tort, and Product Liability Insurance Problems, Sheila L. Birnbaum, Practising Law Institute (1986), The Comprehensive General Liability Policy, A Critique of Selected Provisions, Arthur J. Liederman, ed., ABA Tort and Insurance Practice Section, ABA (1985).

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1. Disputes over determining the time at which an accident or occurrence took place that triggers the insurance coverage.
2. Disputes over how to determine whether a pollution claim involves one or more than one occurrence.
3. Disputes over whether the pollution exclusion excludes from coverage damage resulting from an insured's release.
4. Disputes over whether pollution cleanup costs are covered "damages."
5. Disputes over whether costs incurred in cleaning up an insured's property are covered under the "owned property" exclusion.

To the lay person, many meanings assigned to contract language may seem to bear little relation to common usage of the term. However, when liability contracts are disputed, the court's job is to determine which side's interpretation is "right" so that it may affirm or deny liability. In its effort to rule on liability, the court must carefully scrutinize the language of the contract, upon which the whole dispute hangs, and must more precisely define and interpret words than is generally done. Courts have examined not only dictionary definitions of disputed terms, but the intended meanings of the words given the overall structure of the contract, as well as the history of the terms as used in older versions of CGL policies. As a result, courts have found words in contracts to have both broader and more specific meanings or interpretations than the general population may attach to them.

Oftentimes, CGL policy language is considered ambiguous by courts applying it to hazardous substance release damages. Where the courts hold an insurance contract is ambiguous, they often view favorably the position of the insured, because the insurer is presumed to have an advantage over the insured in that the insurer wrote the contract and may have dictated the contract's terms.

Before discussing the five key contract issues, it is important to understand the concept of the insurer's "duty to defend" and the evolution of the terms "accident" and "occurrence."

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## **Duty to Defend the Insured**

Typically, general liability insurance policies call for the insurer not only to indemnify the insured, but also to defend the insured in claims brought against the insured. For instance, one CGL policy drafted in 1966 contained the following language creating the insurer's duty to defend the insured:

"the [insurance] company shall have the right and duty to defend any suit against the insured seeking damages on account of bodily injury or property damage, even if any of the allegations of the suit are groundless, false or fraudulent. . . "

In an era of burgeoning and reportedly expensive hazardous waste litigation, this duty is an important aspect of insurance protection.

In other contexts, courts have long interpreted these duty-to-defend provisions broadly in liability insurance contracts, holding that they serve to protect insureds against the expenses of defending any arguably covered claims against them.<sup>2</sup> Thus only if the damages are not even arguably covered by the policy does the insurer have no duty to defend. Because the insurer's obligation to defend is broader than its obligation to pay for alleged damage, an insurer may not ultimately be liable for damages claimed in such suits against insureds.

In the hazardous substance release context, many cases decided to date involving insurance issues have considered the insurer's duty to defend on claims brought against an insured. Because an insurer's duty to defend is broader than its obligation to indemnify, insurers may defend insureds responsible for damages resulting from the release of hazardous substances, but face no liability for such damages. Therefore, litigation expenses currently incurred by insurers may not indicate their future liability for damages.

In examining an insurance policy to determine whether the insurer must defend the insured, the courts focus on the same key phrases and terms as when determining coverage for any damages an insured is liable to pay as a result of litigation. These provisions are discussed below.

<sup>2</sup>See, generally, 14 Couch on Insurance 2d sections 46, 51 (rev. ed. 1985), 70 Appleman, Insurance Law and Practice sections 4684, 4685 (Bertol ed. 1979 and Supp. 1987) (hereinafter cited as Appleman).

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**Evolution of the Terms**  
**"Accident" and**  
**"Occurrence"**

Many liability policies written before the 1960s covered liabilities resulting from what the insurance contract referred to as "accidents." The term "accident" was usually not defined in policies, and courts differed in their interpretation of the word.<sup>3</sup> For instance, courts differed over whether the fact that an action was done intentionally precluded the resulting injury from being considered an "accident" eligible for coverage under the terms of the CGL policy. An example of this situation would be the intentional dumping of a flammable liquid into a sewer system, which triggers an explosion killing several firefighters. While dumping was intentional, the resulting injuries to the firefighters might be viewed as accidental because the injuries were neither expected nor intended.

In deciding cases on the basis of the interpretation of "accident," some courts viewed the expectedness or unexpectedness of the resulting injury from the victim's point of view. If the injury was accidental from that vantage, the loss was held covered by liability insurance. Other courts judged the expectedness of the injury from the standpoint of the insured.<sup>4</sup> For example, if a trespasser vandalizing an insured's property causes a release of hazardous substances and is injured by the release, the insurance coverage for the injuries would be determined by asking whether the insured expected such injury to result, not whether the vandal expected injury to flow from the accident.

Perhaps in a move to clarify the types of incidents covered under the contracts, the term "accident" was replaced and amplified by the term "occurrence" in standard CGL policies during the 1960s. The term "occurrence" was at first defined in the policies to mean "an accident, including injurious exposure to conditions, which results during the policy period, in bodily injury or property damage neither expected nor intended from the standpoint of the insured." A later revision of the CGL policy in the 1970s defined an occurrence as "an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured" (emphasis added). This revision also shifted reference to the timing of the injury or damage to the provisions defining bodily injury and property damage. Both definitions noted that the injury or damage must occur within the policy period to be covered.

<sup>3</sup>7A Appleman section 4492, Pfennigstorf, *Environment, Damages, and Compensation*, 1979 A.B.F. Rev. ¶ 432-38, 1 R. Long, *The Law of Liability Insurance*, section 115 (1976).

<sup>4</sup>7A Appleman section 4492-02 (Bertal ed. 1979 and Supp. 1987).



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These two definitions of "occurrence" established several criteria for coverage that were previously unspecified in insurance policies. For instance, the language specifically covers "not only the usual accident, but also exposure to conditions that may continue for an unmeasured period of time."<sup>6</sup> The policy language changes, confirmed by judicial interpretation, also established that the injury resulting from an accident or occurrence, but not necessarily the accident or condition leading to the injury, must take place during the policy period in order for coverage to exist. Additionally, the definition notes that the expectation of injury is viewed from the insurer's standpoint. Furthermore, under the revised definitions of "occurrence," it is clear that the unexpectedness or unintendedness of the resultant damage, not of the accident or condition causing the damage, is a criterion for coverage.

The changed wording thus provided greater clarity in many respects. However, when cases involving the application of these policies to releases of hazardous substances arose, courts found that several issues were not squarely resolved by the contract language. For instance, the contracts did not specify when long latency diseases, such as cancer, would be deemed to have caused injury, and they did not establish a standard for determining the number of occurrences resulting from a release. Each of these issues, and others relating to different contract provisions, has been the subject of varying, nonuniform judicial interpretation and will be discussed below.

## Decisions Regarding the Trigger of Coverage

The trigger of coverage refers to the determination of when the damage occurred for which a claim is made. In order to establish the date when damage occurred and, therefore, the policy covering the damage, a characterization of the damage must be made. In the hazardous substance release context, damage could be viewed as occurring at the time of exposure to the substance, at the time injury or harm is sustained due to the exposure, at the time disease, injury or harm becomes apparent, or any combination of the above.

<sup>53</sup> R. Long, *The Law of Liability Ins.*, App -53 (1976)

<sup>6</sup>The definition of "occurrence" in CGL standard form policies was changed by ISO in 1986 to mean "an accident, including continuous or repeated exposure to substantially the same general harmful conditions." The policy states that the insurer "will pay those sums that the insured becomes legally obligated to pay as damages because of 'bodily injury' or 'property damage' to which this insurance applies." The insurance policy also provides that it covers only damage or injury occurring during the policy period, and that is caused by an "occurrence." See subsequent discussions for a description of the revised pollution exclusion.



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The trigger of coverage becomes a particularly important issue in cases involving gradual pollution and long-latency diseases caused by pollution, where insurers may debate their liability to cover damages that occurred years ago but have just recently been confirmed or recognized. In such cases, the timing of events associated with the incident that caused the harm may be difficult to establish, thereby leaving open the question of whether or not covered damage fell within the policy period.

In deciding trigger-of-coverage issues in cases involving asbestos and other chemical exposures, the state and federal district and circuit courts have employed the following four different approaches to determining when the physical injury or damage was sustained:<sup>7</sup>

- Injury-in-fact This theory sets the date of personal injury at the time of actual physiological change, regardless of whether or not the injury was diagnosable at that time. For instance, a person exposed to asbestos would be deemed injured under this theory when the asbestos actually caused harm to the person's body. This could have been years after exposure, but years prior to the development of any symptoms or diagnosis of the disease.<sup>8</sup>
- Initial exposure Under this theory, bodily injury is deemed to have occurred upon the initial exposure to the toxic substance that caused bodily tissue damage. Thus, the person suffering asbestosis in the 1980s would be deemed to have suffered injury in the prior years when exposure took place—which could have been as long ago as the 1960s. This theory leads to liability attaching under each occurrence policy in effect at the time exposure occurred.<sup>9</sup>
- Manifestation Under this theory, bodily injury or damage is held to have occurred at the time it becomes “manifest,” apparent, or reasonably ascertainable. In other words, once the person exposed to asbestos begins to experience symptoms of asbestosis, or when a medical examination could detect the disease, injury is deemed to have manifested itself.<sup>10</sup>

<sup>7</sup>See, generally, Developments in the Law, Toxic Waste Litigation, 99 Harv. L. Rev. 1458, 1679-82 (1986).

<sup>8</sup>American Home Products Corp. v. Liberty Mut. Ins. Co., 748 F.2d 760 (2d Cir. 1984).

<sup>9</sup>Insurance Co. of North America v. Forty-Eight Insulations, Inc., 633 F.2d 1212, 1219 (6th Cir. 1980), reh'g granted, 657 F.2d 814 (1981), cert. denied, 454 U.S. 1109 (1981), reh'g denied, 455 U.S. 1009 (1982).

<sup>10</sup>Eagle Picher Indus., Inc. v. Liberty Mut. Ins. Co., 682 F.2d 12, 19 (1st Cir. 1982), cert. denied, 460 U.S. 1028 (1983).

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- **Multiple trigger.** The fourth theory finds coverage for damages from initial exposure through and including time of manifestation of bodily injury. Courts employing this rationale contend that damage actually may begin to occur upon exposure and that it may continue to take place up until and including the time that the resulting disease becomes manifest.<sup>11</sup>

Because releases of hazardous substances often involve exposure to those substances, a court's adoption of one of the above theories may be crucial in determining coverage under a liability policy. For instance, if neighbors to a leaking hazardous waste facility are found to have developed leukemia due to exposure to the leaking substances, several different insurers might be liable for indemnifying the facility owners, depending upon the trigger theory adopted. Under the exposure theory, the insurer at the time of exposure would be liable. Under the manifestation theory, the insurer at the time the damage becomes manifest would face liability. Similarly, the insurer at the time that an exposed person experiences physiological change due to the exposure would be liable for damages under the injury-in-fact theory. Under the multiple trigger rationale, however, all insurers from the time of exposure to the time of manifestation might be liable for coverage.

In government-ordered hazardous waste cleanup actions, the courts have not ruled uniformly on the trigger of coverage issue. The damages involved in cleanup actions have been found to take place at the time of release, at the time of discovery of release or harm, and at the time cleanup costs were assessed. One case recently decided in the federal court of appeals for the eighth circuit, for instance, ruled that "environmental damage occurs at the moment that hazardous wastes are improperly released into the environment and that a liability policy in effect at the time this damage is caused provides coverage for the subsequently incurred costs of cleaning up the wastes."<sup>12</sup>

A case decided in the federal court of appeals for the fourth circuit, however, held that because a hazardous waste release was not discovered within the insurance policy coverage dates, the insurer was not liable for reimbursement of the insured's cleanup costs.<sup>13</sup> A lower federal

<sup>11</sup> *Keene Corp. v. Insurance Co. of North America*, 667 F.2d 1034 (D.C. Cir. 1981), cert. denied, 455 U.S. 1007 (1982), reh'g denied, 455 U.S. 951 (1982).

<sup>12</sup> *Continental Ins. Co. v. Northeastern Pharmaceutical & Chem. Co., Inc.*, 811 F.2d 1180 (8th Cir. 1987), reh'g granted, arch 30, 1987.

<sup>13</sup> *Mraz v. Canadian Universal Ins. Co., Ltd., et al.*, 804 F.2d 1325 (4th Cir. 1986).

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court has held that cleanup cost coverage is triggered when cleanup costs are assessed against an insured, while certain state courts have indicated that cleanup cost coverage is triggered by any continuing leakage of waste into the environment.<sup>14</sup> Thus, an insurer's liability for cleanup costs may depend upon which trigger-of-coverage theory is applied by the court hearing its case.

**Decisions Regarding the**  
**Number of Occurrences**

Many insurance policies establish dollar limits to coverage on a "per occurrence" basis. In order to decide the extent of an insurer's liability, courts have been asked to determine how many occurrences can be said to take place as a result of a toxic substance release that affects several people or pieces of property. Generally, courts have held that the number of causes of the damage, and not the number of physical injuries or damaged properties, constitutes the number of occurrences under a liability policy. But again there has been no unanimity on this issue. A minority of courts have adopted a broader interpretation, characterizing the number of occurrences as the number of resulting injuries or damages flowing from the mishap.

One of the few cases to specifically address the question of the number of occurrences involved in the release of hazardous wastes is Township of Jackson v. American Home Assurance Co., et al., (Township of Jackson), now on appeal.<sup>16</sup> In that case the municipality that oversaw a publicly-owned waste treatment and storage facility sought coverage under its liability insurance policy for damages caused by release of toxic chemicals from its facility into groundwater serving the wells used by nearby residents. The court found that "separate, independent causative events" involving the release of hazardous wastes into the environment comprised a "multitude of causes," each of which could have constituted an occurrence. The causes cited by the court included negligent siting, digging beneath the water table, providing inadequate cover, failing to inspect incoming tank trucks, and improper digging of waste cells. The court also noted that multiple occurrences took place under the minority "result" approach applied by some courts because the release of toxins into the groundwater had contaminated 97 separate wells.

<sup>14</sup>Idaho v. Bunker Hill Co., 647 F. Supp. 1064 (D. Idaho 1986), Industrial Steel Container Co. v. Fireman's Fund Ins. Co., C8 86-1135, C8 86-1197 (Minn. Ct. App. Jan. 13, 1987), Solvents Recovery Serv. of New England, Inc. v. Hartford Ins. Co., No. L-25610-83 (N.J. Super. Ct. Dec. 4, 1986).

<sup>16</sup>Township of Jackson v. American Home Assurance Co., et al., No. L-29236-80 (N.J. Super. Ct. Aug. 31, 1984) (Appealed, No. A-20138427), See also, Industrial Steel Container Co. v. Fireman's Fund Ins. Co. (Minn. Ct. App. Jan. 13, 1987).

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The court in Township of Jackson did not decide on which of these two theories to rest its determination of multiple occurrences taking place. The court noted that under either approach, the number of occurrences established, multiplied by the amount of money the policy provided for each occurrence (\$500,000), was sufficient to cover the award for which the insured sought reimbursement. Therefore, as a result of the court's ruling, the insurer was held liable for the entire award to the victims. However, until the appeals are completed, the issue of defining the number of occurrences in this case will not be fully resolved.

A court's interpretation of the number of occurrences that result from a hazardous substance release would be of great significance to insurers whose policies with insureds responsible for such releases did not contain an aggregate limit to coverage. Such companies are at risk of facing liability for the maximum number of occurrences specified in the policy and, because of the large awards possible in such cases, the maximum dollar amount for each occurrence. However, it is important to note that decisions involving this issue in the hazardous substance release context are sparse, and case law in this area might well not follow the Township of Jackson analysis.

## Decisions Regarding the Pollution Exclusion Clause

Pollution exclusion clauses were added to standard form CGL insurance policies in the 1970s. Insurers told us that pollution exclusions were added because of their growing perception of the potentially high cost of providing blanket coverage for pollution damages, especially those involving damage from gradual pollution.

The pollution exclusion contained in a widely used standard CGL policy form developed in 1970 read as follows:

"It is agreed that the insurance does not apply to bodily injury or property damage arising out of the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any water-course or body of water, but the exclusion does not apply if such discharge, dispersal, release or escape is sudden and accidental."<sup>16</sup>

<sup>16</sup>Standard form claims made and occurrence CGL policies developed in 1986 by ISO contain a pollution exclusion that excludes coverage for "[a]ny loss, cost, or expense arising out of any governmental direction or request that [the insured] test for, monitor, clean up, remove, contain, treat, detoxify or neutralize the pollutants." It also generally excludes injury or damage "arising out of the actual, alleged or threatened discharge, dispersal, release or escape of pollutants" at various locations over which the insured has control.

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There is great disparity of opinion in the courts regarding interpretation of the pollution exclusion developed in 1970 when applied to hazardous substance releases. Many courts ruling on pollution exclusion clauses have held that contracts containing them are ambiguous as regards the damage that is covered. For instance, the Court of Appeals of Washington State noted in 1983 that

"the liability insurance policy on the one hand covers an 'occurrence,' which by policy definition includes conditions which are continuing in nature (as the insured argues), while on the other hand the pollution exclusion clause in the policy excludes from coverage damages arising out of the escape of liquids, gases and other substances unless the escape is sudden. Both cannot be true, yet both positions are reasonable, hence the policy is ambiguous and requires judicial interpretation."<sup>17</sup>

Several courts have also noted that the words "sudden and accidental" in the exclusion are not defined in the liability policies in which they appear and do not have obvious meaning when applied to hazardous substance releases.<sup>18</sup> Consequently, those courts have looked elsewhere to determine their meaning, dictionaries, the overall structure of the contract, history of the provision, or, in some cases, to indications of intended meanings of the words by the parties to the contract. In so doing many courts have held that the word "sudden" in the exclusion is not limited to an instantaneous happening and therefore could refer to releases that may have lasted for a prolonged period.<sup>19</sup> Several courts have also viewed "sudden" as synonymous with "accidental." In one case, sudden was read to mean "happening without previous notice or on very brief notice; unforeseen; unexpected, unprepared for."<sup>20</sup>

Other courts, however, have interpreted "sudden" more temporally, "as describing an abrupt or precipitant event. . . ."<sup>21</sup> Courts accepting this

<sup>17</sup>United Pacific Ins. Co. v. Van's Westlake Union, Inc., 664 P.2d 1262 (Wash. Ct. App. 1983). See also, City of Northglenn v. Chevron U.S.A. Inc., 634 F.Supp. 217 (D. Colo. 1986); Lansco, Inc. v. Dept. of Environmental Protection, 350 A.2d 520 (N.J. Ch. Div. 1975), aff'd 368 A.2d 322 (N.J. App. Ct. 1976), cert. denied, 372 A.2d 322 (1977).

<sup>18</sup>Buckeye Union Ins. Co. v. Liberty Solvents and Chem. Co., Inc., 477 N.E.2d 1227 (Ohio Ct. App. 1984); Lansco, Inc. v. Department of Environmental Protection 368 A.2d 363 (N.J. Ch. Div. 1975), aff'd, 368 A.2d 322 (N.J. App. Ct. 1976), cert. denied, 372 A.2d 322 (1977).

<sup>19</sup>Jackson Township Mun. Utilities Auth. v. Hartford Accidental and Indem. Co., 186 N.J. Super. 156 (1982).

<sup>20</sup>Lansco, Inc. v. Department of Environmental Protection, 368 A.2d 363.

<sup>21</sup>Waste Management of Carolinas, Inc. v. Peerless Ins. Co., 24 E.R.C. 1001, 1007 (N.C. Sup. Ct. 1986); City of Milwaukee v. Allied Smelting Corp., et al., 344 N.W.2d 523, 527 (Wis. Ct. App. 1983).



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view of "sudden" differ as to whether the release, the dispersal of toxins through the environment, or the resulting damages need be "sudden." For instance, one state court found that the possibly sudden release of pollutants into the environment was of greater import than any subsequent gradual permeation of pollutants into the environment.<sup>22</sup> "The behavior of the pollutants in the environment, after release, is irrelevant to" the pollution exclusion, the court noted.

In another early case, where both discharge and dispersals of pollutants occurred and the dispersal but not the discharge may have been sudden and accidental, the court held that coverage was not avoided under the pollution exclusion.<sup>23</sup>

Many courts have considered whether the damage resulting from a release had to be accidental to fall outside the pollution exclusion or whether the accidental nature of the release itself was required for the exclusion not to apply. A common view among courts has been that "sudden and accidental" in the pollution exclusion referred to the nature of the resultant damages.<sup>24</sup> Under this interpretation, the pollution exclusion thus merely served to underscore the exclusion of intended or expected damage from coverage, which was also specified in the definition of occurrence.<sup>25</sup>

Very recently, some courts have held the pollution exclusion to be more expansive, thus resulting in more limited coverage for such releases.<sup>26</sup> In these cases, coverage has been deemed to exist under liability policies only if the release itself, along with the resulting damage, was accidental. Under this view, even if damage resulting from an expected or intended release was unexpected, coverage would be denied under the pollution exclusion if the release was not accidental.

<sup>22</sup>Travelers Indem. Co. v. Dingwell, 414 A.2d 220, 225 (Me. Sup. Ct. 1980).

<sup>23</sup>Farm Family Mut. Ins. Co. v. Bagley, 409 N.Y.S. 2d 294, 296 (N.Y. App. Div. 1978).

<sup>24</sup>Farm Family Mut. Ins. Co. v. Bagley, 409 N.Y.S. 2d 294, Jackson Township Mun. Util. Auth. v. Hartford Accident and Indem. Co., 451 A.2d 900 (N.J. Super. Ct. 1982), Buckeye Union Ins. Co. v. Liberty Solvents and Chems. Co., Inc., 477 N.E.2d 1227.

<sup>25</sup>See, Hurwitz and Kohane, The Love Canal: Insurance Coverage for Environmental Accidents, July 1983 Ins. Counsel J. 378, 379.

<sup>26</sup>Waste Management of Carolinas, Inc. v. Peerless Ins. Co., 24 E.R.C. 1001, Transamerican Ins. Co. v. Sunnes, 711 P.2d 212 (Or. Ct. App. 1985), reh'g denied, Feb. 14, 1986, cert. denied, 717 P.2d 631 (April 22, 1986).

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Many courts have decided that when pollution is a natural consequence of the insured's business—particularly when toxic releases are continuous—no covered occurrence takes place, and property damage resulting from the pollution is excluded by the pollution exclusion.<sup>27</sup> Such decisions rest upon the presumption that releases that occur continuously and concomitantly with the insured's activities are not "sudden and accidental," and that resulting damages could not have been "unintended or unexpected."

**Courts Disagree on**  
**Coverage of Property**  
**Damage**

Two federal courts of appeals have reached conflicting conclusions as to whether costs associated with government-ordered cleanup of hazardous substance releases are covered under CGL policy language.<sup>28</sup> This policy language often provides coverage for sums that the insured becomes legally obligated to pay because of property damage caused by an occurrence and that occurs during the policy period. At present, the two federal courts of appeals that have addressed the issue have decided differently as to whether cleanup costs are covered under the CGL policy.

In Continental Insurance Companies v. Northeastern Pharmaceutical and Chemical Co., Inc., the court ruled that the CGL policy did cover cleanup costs that the government sought to recover from a pharmaceutical company.<sup>29</sup> The court held that the damage to the environment caused by the hazardous waste was a form of property damage under the policy. Even though the government did not own the contaminated land, the court noted, it did have a property interest on behalf of its citizens, and the environment generally, including the contaminated area, so that damage to the environment could be characterized as property damage to the government. The court found that CERCLA is consistent with this reading.

Although several lower federal courts and the New Jersey courts have reached similar conclusions, the Court of Appeals for the 4th Circuit has ruled that the CGL policy did not cover CERCLA cleanup costs for which

<sup>27</sup>Great Lakes Container Corp. v. National Union Fire Ins. Co., 77 F.2d 30 (1st Cir. 1984), American Mut. Liberty Ins. Co. v. Neville Chem. Co., No. 84-1614 (W.D. Pa. Jan. 7, 1987), American States Ins. Co. v. Maryland Casualty Co., 587 F. Supp. 1549 (E.D. Mich. 1984).

<sup>28</sup>Continental Ins. Cos. v. Northeastern Pharmaceutical and Chem. Co., Inc., 811 F.2d 1180, Miaz v. Canadian Universal Ins. Co., Ltd., 804 F.2d 1325.

<sup>29</sup>Continental Ins. Cos. v. Northeastern Pharmaceutical and Chem. Co., Inc., 811 F.2d 1180.



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the insured was held liable.<sup>30</sup> The court in Mraz v. Canadian Universal Insurance Co., Ltd. held that government-ordered cleanup costs constitute an economic loss, not property damage covered under the policy. In that case the insurer was not held liable for reimbursement of the insured's cleanup costs.<sup>31</sup> In Maryland Casualty Co. v. Arinco, Inc., the Federal Court of Appeals for the 4th Circuit also found that the insured's liability for cleanup costs did not consist of "damages" as established in the CGL policy, but was more in the nature of an equitable order for relief.<sup>32</sup> Thus, the insurer was held not liable for reimbursement of the insured's cleanup costs. The distinction between damages and equitable orders is rooted in the difference in our justice system between actions brought in law and actions brought in equity. Liabilities deriving from actions in law are termed "damages," while orders that emanate from actions in equity may be described by other terms. In hazardous waste site cleanup cost recovery suits, many insurers have argued that cleanup cost recovery suits brought by the federal and state governments are more in the nature of actions in equity than of actions brought in law, and thus that CGL references to coverage of "damages" do not apply to cleanup costs.

To date, state courts have differed in their analysis of this issue, and no clear consensus has surfaced.<sup>33</sup> The eventual resolution of this issue is key, however, to determining whether hazardous waste site cleanup costs will be borne in part by insurers.

## Decisions Regarding the Owned Property Exclusion

Many CGL policies provided specific "owned property" exclusions for damage to property owned or controlled by the insured. As characterized by insurers, the owned property exclusion protects an insurer from becoming a guarantor of the insured's workmanship in his ordinary

<sup>30</sup>United States v. Conservation Chem. Co., No. 82-0983 CV-W 5, 12 CWLR 518, 519 (W.D. Mo. July 10, 1986), Independent Petroleum Corp. v. Aetna Casualty and Surety Co., No. 83-3347 (D.D.C. 1986), Solvents Recovery Serv. of New England, Inc. v. Midland Ins. Co., No. L-25610-83, 12 CWLR 398 (N.J. Super. Nov. 17, 1986).

<sup>31</sup>Mraz v. Canadian Universal Ins. Co., Ltd., 804 F.2d 1325.

<sup>32</sup>Maryland Casualty Co. v. Arinco, Inc., No. 86-3125 (4th Cir. July 7, 1987) (available July 20, 1987, on LEXIS, Genfed Library US App File).

<sup>33</sup>Internacional Mineral and Chem. Co. v. Liberty Mut. Ins. Co., No. 84-1-50979, 12 CWLR 581 (Ill. Cir. Ct. Jan. 6, 1987), CPS Chemical v. Continent Ins. Co., No. L-040537-84 (N.J. Super. 1987), Solvents Recovery Serv. of New England, Inc. v. Midland Ins. Co., 12 CWLR 398, Kutsher's Country Club Corp. v. Lincoln Ins. Co., 465 N.Y.2d 136 (N.Y. Sup. Ct. 1985), U.S. Aviat. Co. v. Travelers Ins. Co., 336 N.W.2d 858 (Mich. Ct. App. 1983).

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operations. The insurers maintain that insurance has never been available for maintenance-type activities, and that the vast majority of insurers are unwilling to provide coverage for cleanup of the policyholder's own property in order to maintain the incentive for the policyholder to manage and police his own property in a responsible fashion.

Several courts have held that owned property provisions do not exempt the insurer from liability for the cleanup of property owned by the insured when such cleanup is necessary to halt property damage to a third party or when cleanup of groundwater below the insured's property is involved.<sup>34</sup> For example, in the Michigan case United States Aviox Co. v. Travelers Ins. Co., the court ruled that groundwater is not the property of the landowner and so does not fit within the owned property exclusion.<sup>35</sup> The policy was thus determined to apply to the costs involved in correcting the groundwater contamination beneath the insured's land. In addition, several New Jersey courts and one lower federal court have ruled that cleanup of contaminated land owned by the insured is covered by CGL policies containing owned property exclusions when such cleanup is necessary to prevent contamination to a third-party's property.<sup>36</sup> The courts have noted that the policy exclusion does not specifically address coverage of owned property damage when it leads to third-party damage and that contamination to the third party's property would continue unless cleanup of the insured property took place.

In another New Jersey case, Summit Associates, Inc. v. Liberty Mutual Fire Co., the court also held that the owned property exclusion did not apply to the cleanup costs undertaken by an insured who innocently purchased property that was contaminated by prior owners.<sup>37</sup> Noting the state's strong interest in protecting the environment, the court ruled

<sup>34</sup>United States v. Conservation Chem. Co., 12 CWLR 518, Broadwell Realty Serv., Inc. v. Fidelity and Casualty Co. of New York, No. L-081194-84 (N.J. Super. May 23, 1986) (Letter Opinion); E.C. Electro Plating, Inc. v. Federal Ins., No. L-062919-85, 11 CWLR 696 (N.J. Super. Feb. 18, 1986); Bankers Trust Co. v. Hartford Accident and Indem. Co., 518 F. Supp. 371 (S.D.N.Y. 1981), vacated, 621 F. Supp. 685 (S.D.N.Y. 1981). See also, Fireman's Fund Ins. Co. v. Ex Cello Corp., et al., No. 85-71371, slip op. (E.D. Mich. May 18, 1987), United States Aviox Co. v. Travelers Ins. Co., 336 N.W.2d 838.

<sup>35</sup>U.S. Aviox Co. v. Travelers Ins. Co., 336 N.W.2d 838.

<sup>36</sup>United States v. Conservation Chem. Co., 12 CWLR 518, Broadwell Realty Serv., Inc. v. Fidelity and Casualty Co. of New York, (N.J. Super. May 23, 1986) (Letter Opinion); E.C. Electro Plating, Inc. v. Federal Ins., 11 CWLR 696. See also, Bankers Trust Co. v. Hartford Accident and Indem. Co., 518 F. Supp. 371, vacated, 621 F. Supp. 685.

<sup>37</sup>Summit Assocs., Inc. v. Liberty Mut. Fire Ins. Co., No. L-47287-84, 12 CWLR 1094 (N.J. Super. Feb. 2, 1987).

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that when innocent purchasers of contaminated land incur cleanup costs, such costs should not be excluded from coverage under the owned property exclusion, because, among other reasons, the inability of landowners to pay for cleanup costs could lead to the depletion of the state's cleanup fund.

## **Environmental Liability Insurance**

By the late 1970s and early 1980s, as instances of widespread damage resulting from the gradual release of hazardous substances at Love Canal, New York, and other sites became known, coverage for damages resulting from all but sudden and accidental pollution had been excluded from many CGL policies. By 1986, pollution coverage was virtually excluded from standard CGL policy forms and was available only by endorsements to such policies (see fns. 6 and 16). In 1981, however, the insurance industry developed a new policy, generally referred to as Environmental Impairment Liability (EIL) insurance, to provide coverage for gradual and sudden pollution. As noted in chapter 2, these EIL policies are, at present, generally not being marketed.

EIL policies—the standard form, as well as those drafted by individual insurers on their own—typically provide coverage for property damage as well as for bodily injury and other economic loss caused by pollution. Pollution is characterized in such policies by various terms, all of which contemplate a broad range of containment releases.

The standard pollution liability policy developed by the Insurance Services Office (ISO) in 1981 covered both sudden and gradual pollution incidents.<sup>38</sup> This policy enabled owners and operators of hazardous waste treatment, storage, and disposal facilities to comply with federal responsibility requirements contained in the Resource Conservation and Recovery Act of 1976. The policy covered policyholder liability for bodily injury and property damage resulting from either sudden or gradual pollution and for cleanup costs. Although we could not determine the extent to which this policy form was being used, insurance trade association officials told us that it has not been widely marketed.

We are aware of no significant litigation involving the terms of these most recent EIL insurance contracts, although it is always possible that

<sup>38</sup>ISO is a national, voluntary association of property and casualty insurance companies that makes available advisory rating, statistical, actuarial, policy form and related services to U.S. property/casualty insurers. ISO is also a major statistical agent for the insurance industry that collects, summarizes, and reports on insurance companies' premiums and claims losses. State regulators use these data to make certain that insurance rates are not excessive, inadequate, or discriminatory.

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cases involving the terms of EIL contracts may arise in the future. The cases referred to in this chapter primarily focus on pre-1986 CGL policies.

## **Changes in Contract Language May Make Liability More Predictable**

Given the controversy over basic coverage terms in CGL contracts, we were asked by the Congress to determine whether "amendments in the language of" applicable insurance contracts and "the description of risks assumed" could affect judicial interpretation of the contracts. While we cannot predict precisely how new contract language might be applied by courts to individual situations, certain possible changes in language seem likely to clarify the contracts, and thus to render the liabilities covered under them more predictable.

## **Contract Amendments to Clarify Terms of Coverage**

One change in a pollution liability endorsement to the standard form CGL policies, which is currently being considered by ISO, applies to sudden pollution coverage. The language eliminates the word "sudden," but in its place notes that "the [pollution] exclusion [contained in the CGL policy] does not apply to emissions that begin on a clearly identifiable day and last no longer than 15 days thereafter." This reference to the 15-day duration of a covered emission firmly establishes a calendar-specific time frame for releases as a criterion of coverage. With such contract language before them, courts would thus be likely to recognize a time limit to coverage of releases, a key dispute in recent litigation over the term "sudden" in relevant contracts. Therefore, if this language is employed, coverage might be less likely to be found for gradual releases under applicable policies or endorsements.

Another change in policy language adopted by a major insurance company clarified the method of determining the number of occurrences that might arise from the release of hazardous wastes. Under one such policy, the insurer considers as one loss all damages "arising out of the same or related pollution conditions at any one location." This language thus attempts to bypass two issues: (1) whether the cause or the effect theory of an occurrence should dictate the number of occurrences and (2) how many occurrences result from related releases at a single hazardous waste site. Because courts have differed over their treatment of these issues under prior CGL policies, clearer treatment of them as described above should lead to greater predictability in coverage.

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Litigation over interpretation of the "owned property" exclusion indicates that greater specificity in that provision would clarify its application to hazardous waste cleanup costs. Language stating whether exclusion of coverage for damage to the insured's property includes cleanup costs incurred to alleviate damage to a third party's property would improve upon language currently being interpreted by the courts.

**Contract Amendments**  
**Reducing Potential Risks**  
**to the Insurer**

In 1981 ISO made final a "claims-made" environmental liability policy form, and in 1986 completed a claims-made CGL policy that excluded pollution coverage, except through endorsement. The two key features of this and other claims-made pollution liability contracts are that (1) coverage is provided only for claims filed during the policy period and (2) even if a claim is brought during the policy period, coverage is provided only for damages that take place during the policy period or during some preceding period—the so-called retroactive period—specifically defined in the policy.

Depending upon the retroactive date of the policy, claims-made policy coverage could exclude most prior damages caused by releases of hazardous substances. The policy is thus largely prospective in coverage. Because both the damage and the presentation of the claim must occur during the period specified in the policy coverage dates, and because the policy extends from the first policy's coverage date to the current policy's coverage period if the policy is continuously renewed, maintaining policy coverage is essential to recovery by the insured. Because of the potential for nonrenewal of a policy, which would end an insured's entitlement to coverage for past damages, the risks assumed by an insurer under a claims-made policy appear greatly reduced, compared with old "occurrence" CGL policies, which could cover claims filed after the policy period expired.

Although some insurers adopted this form in an attempt to limit expenses by reducing coverage, how the courts may interpret the claims-made environmental liability policy is still uncertain, largely because the form is greatly altered from prior occurrence-based liability contracts, about which a substantial body of cases has been developed.

Another change in pollution liability insurance contracts that might reduce potential coverage would be one that specifies that disputes over coverage be decided by an arbitrator rather than through the court system. While this change does not constitute any clarification of prior language, it would attempt to reduce the defense costs attendant to



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litigation over both the insurer's duty to defend and indemnity obligations. The use of arbitration, if freely agreed to by both the insured and the insurer, could significantly reduce costs, because the procedures are greatly simplified in the arbitration process, although the lack of case precedent which would result could lead to revisitation of the same issue, and accompanying expenses.

Many insurance contracts applicable to pollution releases limited coverage to a fixed dollar amount per pollution incidence or occurrence. Some contracts also limited coverage on an aggregate basis so that, no matter how many incidences or occurrences took place, the insurer could be liable up to only the aggregate amount stated in the policy. By limiting coverage on an aggregate basis for pollution claims, insurers should be able to reduce their liability. This is particularly the case because hazardous substance releases might be characterized in future litigation as multiple incidences or occurrences—each entailing large damages. The magnitude of insurers' current potential liability may be due, in part, to the insurers' not including aggregate limits in prior policies.

## Conclusions

In an increasing number of cases between insureds and insurers, courts across the nation are deciding whether CGL policies provided coverage for on-site cleanup costs and off-site damages resulting from the release of hazardous substances. In deciding such cases, courts are focusing on certain key terms in the contracts, such as "accident," "occurrence," and the wording of the pollution exclusion clause. Interpretations of these terms are varied, which should not be surprising because the several courts are simultaneously deciding cases that involve novel applications of relatively new or ambiguous contract provisions. Also, many of the cases we reviewed were still involved in the appeals process. The variety that now exists in analysis of coverage issues may, therefore, change when the cases reach final decisions.

One critical provision being interpreted in coverage contests is the pollution exclusion. Courts have found coverage for various types of releases, despite the language of this exclusion, by employing a wide range of rationales. Courts have also established several criteria for determining when damage occurs under liability policies, ranging from the time a release occurs to the time when physical injury or damage becomes manifest. The method for determining the number of occurrences—an issue not addressed in most liability policies—has similarly been decided in a few key cases, and will likely be a heavily-litigated issue. With regard to

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hazardous waste cleanup cost coverage, courts have reached no consensus as to when such damages should be deemed to have occurred, and whether cleanup costs, such as at some CERCLA sites, should be covered as damages. Regarding future contracts, major property/casualty insurers told us that onsite cleanup costs would be excluded because they are uninsurable.

More precise contract language addressing these specific risks could make court interpretations of the contracts more predictable. Two examples of language currently contained in, or being considered for inclusion in, current policies are provided in this chapter. We believe that while judicial interpretations favorable to insurers on future contracts may not be assured, the likelihood of such outcomes will increase as experts within the industry draft more precise language addressing those issues currently being considered in the courts.



# Frequency and Severity of Pollution Claims Closed During 1985

During CERCLA reauthorization hearings in 1985 and 1986, insurers expressed concern over the prospect of enormous losses from their pollution liability exposures under old CGL policies resulting from federal environmental liability standards (particularly CERCLA liability) and court decisions dealing with liability and contract interpretation. Yet, at that time, industry-wide data were not available on the actual pollution claims costs that insurers had incurred. In order to explore the extent of these costs, SARA section 208 directed us to review a sample of pollution claims closed during 1985—the year preceding the enactment of SARA—and to determine the frequency and severity of those claims.

Using surveys sent to 104 insurers, we found relatively modest frequency and severity levels for 1985 pollution claims. Of 75 insurers responding to our frequency survey, 25 reported that during 1985 they closed only 382 pollution claims with payment. Eighteen of these 25 insurers subsequently provided us with severity data on 200 of their closed claims. Indemnity payments on these 200 claims totaled about \$6,600,000. Although these results do not include data from some major insurers who did not reply to our surveys, we believe that the response obtained was sufficient to show the general character of pollution claims closed during 1985.

Insurers maintain that the relatively low frequency and severity levels found in our surveys are due to the fact that 1985 pollution claim closures generally involved easily resolved claims with relatively small settlements. The insurers strongly maintain that 1985 closed claims are not indicative of the magnitude of the thousands of open pollution claims that are pending closure or that will eventually be reported against old CGL policies. They contend that these impending claims will involve much greater payments.

Our survey does not provide a basis for making projections about the magnitude of these impending claims. In order to make such projections, more pollution claim closures—and data on these closures—are needed, particularly with regard to the claims associated with CERCLA and RCRA cleanups.

## Data-Gathering Methodology

Since the insurers we met with believed that the number of 1985 closed pollution claims would be very small, we decided that representative sampling was methodologically inappropriate; instead, we attempted to survey every 1985 pollution claim closed with payment.

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To do this, we contacted 104 insurance groups and individual insurance companies that were most likely to have written pollution insurance in the past and asked for frequency and severity data on all pollution claims that they closed with payment during 1985. We also asked for some basic information on their open pollution claims in order to gauge the extent of their unresolved claims. The 104 insurers included (1) the top 50 writers of "other liability," the insurance category under which most pollution insurance would be written; (2) all past and current members of PLIA; and (3) other insurers known by us to have written pollution insurance. We also included several major U.S. reinsurers to determine if they had written any direct pollution insurance.

We gathered the closed claims data by mailing to the insurers two short questionnaires, one on frequency and a second on severity. (The questionnaire forms are in app. III.) Participation in the survey was voluntary, since we do not have authority to require the insurers to respond. To encourage a good response rate, we extended a pledge of confidentiality to the insurers, promising that only summaries of aggregated data would be used in this report. We did not verify the survey responses because insurers consider their claims files to be confidential. A more detailed discussion of our survey methodology is found in appendix II.

## Frequency of 1985 Pollution Claims

Of the 104 insurers to whom we sent our frequency survey, 75 responded with data.<sup>1</sup> Among these 75 respondents were 41 of the top 50 writers of "other liability" insurance (including all of the top 10, and 16 of the top 20). As indicated in table 6.1, the respondents reported closing relatively few pollution claims.

**Table 6.1: Frequency of 1985 Pollution  
Claims for 75 Responding Insurers**

Claims status	Number of claims
Closed during 1985 with payment	382
Remaining open at the end of 1985	11,915

It is important to recognize that frequency is a count of the number of individual pollution claims. The number of pollution claims is not equivalent to the number of pollution incidents. For example, one pollution incident may result in several claims within one insurance company or

<sup>1</sup>The cutoff date for our frequency survey was July 31, 1987. In addition to the 75 insurers who responded with data, 10 others responded that they were unable to provide us with the requested data.

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among several insurance companies. With regard to the 11,915 open claims, insurers reported that only 697 involved EIL policies.

In table 6.2, the responding insurers are sorted into three groups, depending on their pollution claims activity in 1985.

**Table 6.2: 1985 Pollution Claims Activity  
of 75 Responding Insurers**

<b>Claims activity</b>	<b>Number of insurers</b>
Had both open and closed pollution claims	25
Had only open pollution claims	25
Had no open or closed pollution claim	25
<b>Total</b>	<b>75</b>

As table 6.2 indicates, 50 of the 75 responding insurers had some sort of pollution claims activity in 1985. Most of this activity was concentrated within a small number of companies. Of the 382 claims closed, 296 are accounted for by 5 insurers (each of which reported closing 30 or more claims). Of the 11,915 open claims reported, 8,014 of them were accounted for by 9 insurers (each of which reported having 600 or more open claims).

## **Severity of 1985 Closed Pollution Claims**

To determine the severity of the 382 closed claims, we sent a second set of questionnaires to the 23 of the 25 insurers that reported closing claims with payment.<sup>2</sup> We instructed the insurers to complete one questionnaire for each of their closed claims. The questionnaires asked the cost of the claim's indemnity payment, as well as some basic information on the type of insurance policy involved, the policy dates, the insured's business, the nature of the incident leading to the claim, and the amount of legal costs expended by the insurer in resolving the claim.

As of August 17, 1987, 18 of these 23 insurers responded to our severity questionnaires, providing us with data on 200 claims closed with an indemnity payment to the insured.<sup>3</sup> These claims, nearly all of which involved CGL policies, resulted in payments totaling nearly \$6,600,000.

<sup>2</sup>Two insurers responded to the frequency questionnaire too late to be included in the severity survey.

<sup>3</sup>We received an additional 25 surveys providing information on claims closed without payment to the insured. We excluded these from our tabulations because our data request was only for claims closed with payments.

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## Cost of Pollution Indemnity Payments

We asked insurers to provide the total cost of each indemnity payment made for pollution claims closed during 1985. Specifically, these cost data were to include any lump-sum payments, as well as the cost to the insurer of any annuity purchased for future structured payments on the claims. To ensure that we were capturing the complete cost of the claims payments, we instructed the respondents to provide the total cost to their company prior to any amount they recovered from their reinsurers on the claim. (Ordinarily, the cost of a claim payment is borne by the primary insurer who wrote the policy, and by one or more reinsurers who assume part of the risk in return for a portion of the premium.) Since we asked respondents to report separately the legal costs associated with these claims, they are not included in these indemnity payment figures.

For the 200 claims for which we received responses, insurers paid out \$6,607,906. The indemnity payments ranged from under \$100 to about \$1,000,000, with the average payment being \$33,040. However, most of the claims were settled for considerably less than that, since the median payment was only \$5,000.<sup>1</sup> Tables 6.3 and 6.4 break down the total payment figure by the insured's activity and the primary nature of the incident leading to the claim.

**Table 6.3: Distribution of Indemnity Payments According to Insureds' Activity**

Insureds' activity	Number of claims	Total amount	Average amount
Manufacturing	109	\$4,021,001	\$36,890
Petroleum	58	1,416,489	24,422
Mining/smeltering/ore processing	3	294,824	98,275
Municipal waste treatment/storage/disposal	3	23,033	7,678
Commercial waste treatment/storage/disposal	3	510,445	170,148
Other	24	342,114	14,255
<b>Total</b>	<b>200</b>	<b>\$6,607,906</b>	

<sup>1</sup>The median is the midpoint in an ordered array of values. The median in this case indicates that half of the claims involve payments of \$5,000 or less.

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**Table 6.4: Distribution of Indemnity Payments According to Primary Nature of Incident**

<b>Nature of incident</b>	<b>Number of claims</b>	<b>Total amount</b>	<b>Average amount</b>
Release associated with treatment, storage, and/or disposal of waste products	100	\$2,333,916	\$23,339
Release associated with petroleum	56	1,348,576	24,082
Release associated with manufacturing process	20	2,284,124	114,206
Release associated with transportation	12	274,666	22,889
Other	12	366,624	30,552
<b>Total</b>	<b>200</b>	<b>\$6,607,906</b>	

The most frequent pollution incident—releases involving the treatment, storage, or disposal of waste products—occurred at manufacturing locations. Regarding the 56 petroleum releases, at least 29 of the claims involved underground storage tanks, as noted in some of the responses.

We also asked for the purpose of the indemnity payments. Table 6.5 provides a breakdown of the responses by the number of claims and the amount.

**Table 6.5: Distribution of Indemnity Payments by Purpose**

<b>Purpose of payment</b>	<b>Number of claims</b>	<b>Total amount</b>	<b>Average amount</b>
Cleanup/property damage/natural resource damage	119	\$5,641,893	\$47,411
Bodily/personal injury	72	849,898	11,804
All purposes above	7	111,077	15,868
Other	2	5,038	2,519
<b>Total</b>	<b>200</b>	<b>\$6,607,906</b>	

As table 6.5 indicates, most of these payments were for actions involving pollution cleanup, compensation for property damages, and restoration of the environment damaged by pollution. We did not ask whether any of these claims were associated with CERCLA cleanups.

## The “Tail” on Pollution Claims

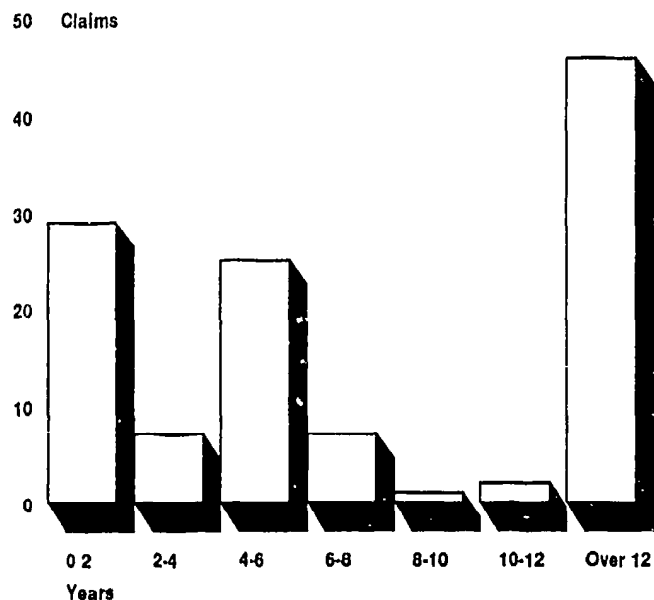
The amount of time that can elapse between the end of the policy period and the date the claim is presented (called the “tail” by insurers) is an important issue in pollution insurance. Because pollution incidents and their effects on human health and the environment are not always detected promptly, many years may pass between the end of the policy

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period and the presentation of a claim against that policy. For this reason, pollution liability is considered to be "long tail" by the insurance industry. Under "occurrence" policies, such as CGL policies, an insurer may be liable for pollution incidents that can be traced to the coverage period of an old policy, even though the policy period may have lapsed many years ago.<sup>6</sup> Of the 200 closed claims for which we received severity questionnaires, 186 involved CGL policies. (Only 4 involved EIL policies, 10 involved other types of policies.)

In reviewing our questionnaire results, we found 78 claims were presented during the policy period and therefore had no tail, and 5 other responses had missing dates. The remaining 117 claims (all but 5 involving CGL policies) were presented after the expiration of the policy period. They had tails ranging from 1 month to 19 years, with the average being 7 years. Figure 6.1 shows the distribution of the claims by 2-year intervals.

**Figure 6.1: The "Tail" on 117 Pollution Claims Closed in 1985**



No values fall between the year groupings

<sup>6</sup>For a discussion of the terms of an occurrence policy, see ch. 5



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Insurers have expressed concern about the possibility of large indemnity payments being made on very old policies. As figure 6.1 indicates, 46 claims had tails of more than 12 years. The payments on these claims totaled \$319,362. Nearly all of these claims stemmed from one pollution incident.

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## Legal Costs of Resolving Claims

Given the controversy over contract coverage (discussed in ch. 5), we asked whether the claim involved legal costs expended by the insurer in disputes with the insured party over terms of the policy's pollution coverage. In all, only five such disputes were reported. They all involved CGL policies, with legal costs totaling \$23,173 and averaging \$4,635 per claim (the median amount being \$4,019).

According to insurers, the legal costs of defending their insureds in lawsuits involving pollution claims can be substantial, and may in fact exceed the cost of the claim payment itself. Our questionnaire asked insurers whether their claims involved defense of such lawsuits and, if so, to specify the total dollar amount of legal expenses, court costs, and other related costs expended by the insurer in defense of the insured.

In all, 118 of the 200 closed claims involved the insurers' defense of suits brought by other parties against the insured.<sup>6</sup> The total amount expended by the insurers in defending their insureds in these cases was \$2,247,670, averaging \$19,048 per case (the median was \$682). These 118 suits resulted in indemnity payments totaling \$4,348,157. (The average payment was \$36,849, the median payment was \$2,000.) Insurers reported that all but 3 of these claims were resolved through out-of-court settlements.

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## Limitations of Survey Results

When we developed our survey approach, insurers said that 1985 closed pollution claims would generally consist of relatively simple, inexpensive claims that could be resolved quickly. They predicted that our survey would show

- a low frequency of closed claims,
- relatively uncomplicated claims litigation, and
- low amounts of indemnity payments.

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<sup>6</sup>Of these 118 lawsuits, 12 were brought by the federal government, 1 by a state government, 3 by county or local governments, 92 by citizens, and 10 by a combination of two or more of these parties.



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The insurers strongly maintained that 1985 closed pollution claims would not be representative of the magnitude of their impending pollution liabilities resulting from past policies.

Given the fact that a number of insurers did not provide responses to our questionnaires, our results do not present a complete picture of the 1985 claims. Furthermore, we cannot be sure that the responses we obtained are representative of the complete picture. Also, given the small number of claims involved, it is possible that data on even a few additional claims not reported to us could significantly change average severity data. Nevertheless, we believe that enough insurers participated to give a good indication of the general character of 1985 pollution claims closed with payment, particularly since our survey results generally correspond to the insurers' predictions.

As predicted by insurers, the frequency of claims settlements is strikingly low, especially when contrasted with the much higher number of open claims (382 closed versus 11,915 open--about a 1:30 ratio). With regard to legal costs, only five of the claims involved disputes with the insured party over contract coverage, resulting in only about \$23,000 in legal costs to the insurers. Additionally, all but three of the claims involving the defense of the insured against lawsuits brought by other parties were reported to have been settled out of court, with insurers paying an average of only about \$19,000 per claim on defense costs. These data suggest that the claims generally did not involve prolonged litigation.

Perhaps the most important characteristic arguing for the simplicity of these claims is the low amount of the indemnity payments themselves. The 200 claims payments totaled only about \$6,600,000. And as indicated by the median payment of \$5,000, most of the claims involved far smaller payments than the average payment of about \$33,000 per claim.

Two other characteristics of the 200 surveyed claims that suggest their relative simplicity are noteworthy. First, only three claims involved pollution stemming from commercial treatment, storage, or disposal facilities--the type of facility that would be associated with CERCLA cleanups involving legal concerns over joint and several liability. Consequently, the surveyed claims may not have involved the liability concerns discussed in chapter 4, which insurers are most concerned about. Second, the surveyed claims did not involve costly bodily/personal injury settlements. Although 72 of the 200 settlements were exclusively for bodily/personal injury, only about \$860,000 was paid for them in total.

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Our survey shows that the responding insurers generally did not make substantial pollution claims payments in 1985. However, since our survey represents only a slice of time, it does not provide a statistical basis for making projections about future pollution claims. Due to the small number of pollution claims that were closed in 1985 and the large number that remained open, it may take several more years of additional pollution claims experience before enough claims are closed to form a basis for making such projections. In the meantime, the extent of the insurers' impending pollution liability payments under old CGL policies remains an open issue.

## Potential Usefulness of Additional Data on Pollution Claims

Although 50 insurers reported that they had nearly 1,900 open pollution claims at the end of 1985, we do not know how many of these will result in payments, let alone what the size of such payments might be.<sup>7</sup> Our attempts to gather data on the amounts that insurers were reserving against open pollution claims were not successful because insurers consider this information to be confidential. Such information, in any event, might not be useful at this time. According to several major insurers, open pollution claims are generally still in a relatively immature phase of resolution, and it is difficult for insurers to estimate the ultimate expense of these claims.

As noted earlier, there was no central industry source on pollution indemnity payments at the time of CERCLA reauthorization in 1985-86. In 1987, however, ISO began to require insurers that reported data to it to indicate dollar losses due to environmental liability. These loss data will be broken down by payments for cleanup costs, property damage, and bodily injury. However, ISO's data will not capture all pollution claims. ISO's data are confined to data from CGL policies written by admitted insurers that form ISO's clientele.<sup>8</sup> (ISO data represent about 75 percent of the commercial general liability market.) Pollution claims data for non-admitted surplus lines insurers are not being captured either by ISO or

<sup>7</sup>By way of comparison, 43 percent of an estimated 73,472 medical malpractice claims closed by insurance companies in 1984 were closed with payment. The average payment for injury was about \$81,000. The median was \$13,000. See Medical Malpractice: Characteristics of Claims Closed in 1984 (GAO/HRD-87-55, April 22, 1987).

<sup>8</sup>An admitted insurer is one licensed by a state insurance commissioner to sell insurance within the state.

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the state insurance departments.<sup>9</sup> In our review, we were not able to determine the extent to which surplus lines carriers wrote pollution insurance in the past and, consequently, do not know how significant the lack of surplus lines data will be. Since no existing regulatory mechanism requires the collection of pollution data from the surplus lines market, this data void may well continue in the future.

A limited and sharply focused data collection effort might be useful in determining the extent to which insurers pay for pollution cleanup efforts. For example, although EPA gathers data on the dollar amounts paid by responsible parties at individual CERCLA site cleanups, it does not have data on how much of the responsible parties' costs are ultimately borne by their insurers. Data on the insurers' CERCLA-related payments would be key information in evaluating the insurers' contention that they are bearing a large portion of the expense of cleaning up the nation's most hazardous waste sites.

## Conclusions

Our survey of pollution claims closed during 1985 shows that only 382 such claims were closed by the 75 insurers who responded to us. Additional data on the severity of 200 of these claims shows that indemnity payments were relatively modest, totaling about \$6,600,000—with an average of about \$33,000 per claim (with a median claim of \$5,000). These 200 closed claims did not, on average, involve substantial legal costs to the insurers, either over contract coverage disputes with insureds or in defense of the insured in lawsuits involving third parties. These 1985 results, however, cannot be used to project the magnitude of pollution claims that have not yet been resolved. Of the 75 responding insurers, 50 reported that they had about 11,900 unresolved pollution claims at the end of 1985.

Data on pollution claims closed since 1985 would be needed to monitor the magnitude of the insurers' pollution claims costs. Beginning in 1987, ISPA is gathering data on an ongoing basis from most of the commercial liability insurance market on their CGL pollution claims losses. However, these data will not capture pollution payments made by all insurers under all types of policies.

<sup>9</sup>A surplus lines insurer is a company that generally underwrites risks or parts of risks for which insurance is not available through a company licensed in the insured's state. This business is, therefore, placed with a nonadmitted insurer (a company not licensed in the state) in accordance with surplus lines provisions of state insurance laws. (Source: A.M. Best.)

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## **Matter for Consideration by the Congress**

The extent to which insurers pay for pollution cleanups and related third-party bodily injury and property damage will almost certainly be raised by the insurance industry during the next CERCLA reauthorization. However, determining the amounts that insurers are paying is difficult because the industry does not have centralized, comprehensive data on these indemnity payments. Given this situation, we believe that the Congress should consider requiring insurers or responsible parties, as appropriate, to report to EPA the amounts of indemnity payments made to cover pollution cleanups and related third-party bodily injury and property damage.

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## Section 208 of SARA

### SEC 208. INSURABILITY STUDY

Section 301 of CERCLA is amended by adding the following new subsection at the end thereof:

#### "(g) INSURABILITY STUDY --

"(1) STUDY BY COMPTROLLER GENERAL -- The Comptroller General of the United States, in consultation with the persons described in paragraph (2), shall undertake a study to determine the insurability, and effects on the standard of care, of the liability of each of the following:

"(A) Persons who generate hazardous substances liable for costs and damage, under this Act.

"(B) Persons who own or operate facilities liable, for costs and damages under this Act.

"(C) Persons liable for injury to persons or property caused by the release of hazardous substances into the environment.

"(2) CONSULTATION -- In conducting the study under this subsection, the Comptroller General shall consult with the following:

"(A) Representatives of the Administrator.

"(B) Representatives of persons described in subparagraphs (A) through (C) of the preceding paragraph.

"(C) Representatives (i) of groups or organizations comprised generally of persons adversely affected by releases or threatened releases of hazardous substances and (ii) of groups organized for protecting the interests of consumers.

"(D) Representatives of property and casualty insurers.

"(E) Representatives of reinsurers.

"(F) Persons responsible for the regulation of insurance at the State level.

"(3) ITEMS EVALUATED -- The study under this section shall include, among other matters, an evaluation of the following:

"(A) Current economic conditions in, and the future outlook for, the commercial market for insurance and reinsurance.

"(B) Current trends in statutory and common law remedies.

"(C) The impact of possible changes in traditional standards of liability, proof, evidence, and damages on existing statutory and common law remedies.

"(D) The effect of the standard of liability and extent of the persons upon whom it is imposed under this Act on the protection of human health and the environment and on the availability, underwriting, and pricing of insurance coverage.

"(E) Current trends, if any, in the judicial interpretation and construction of applicable insurance contracts together with the degree to which amendments in the language of such contracts and the description of risks assumed, could affect such trends.

"(F) The frequency and severity of a representative sample of claims closed during the calendar year immediately preceding the enactment of this subsection.

"(G) Impediments to the acquisition of insurance or other means of obtaining liability coverage other than those referred to in the preceding subparagraphs.

"(H) The effects of the standards of liability and financial responsibility requirements imposed pursuant to this Act on the cost of, and incentives for, developing and demonstrating alternative and innovative treatment technologies as well as waste generation minimization.

"(4) SUBMISSION -- The Comptroller General shall submit a report on the results of the study to Congress with appropriate recommendations within 12 months after the enactment of this subsection."

# Objective, Scope, and Methodology

The objective of this report is to provide the Congress with the information sought by section 208 of SARA concerning the insurability of activities involving hazardous substances. Section 208 required us to review the liability and standard of care associated with the generation, transportation, storage, and disposal of hazardous substances. In conducting our work, the act directed us to consult with representatives of generators of hazardous substances, disposal facility owners or operators, persons liable for injury, groups comprised of persons adversely affected by release of hazardous substances, groups organized for the protection of consumer interests, the Environmental Protection Agency, property/casualty insurers, reinsurers, and state insurance regulators.

This report concerns only the section 208 requirements. The other insurance and liability issues raised by the Congress in passage of SARA—cleanup contractor liability, post-closure liability, and petroleum tank liability—will be the subject of future reports. Environmental restoration insurance for the trucking industry was addressed in a May 1986 GAO report (Motor Carriers: The Availability of Environmental Restoration Insurance, RCED-86-150BR, May 19, 1986).

Because much of the data needed to perform this study are proprietary or unavailable in any readily accessible form, we relied on the voluntary cooperation of the insurance and hazardous substance industries. Specific data limitations are discussed in appropriate sections of this appendix.

SARA required an evaluation of eight specific issues, listed below (A through H).

(A) Current economic conditions in, and the future outlook for, the commercial market for insurance and reinsurance.

To determine the economic condition and outlook for commercial insurance, we reviewed the work already completed by GAO, the Congressional Research Service (CRS), and others on the economic conditions of the insurance industry and the data available in A.M. Best (the industry's statistical publication) on the economic conditions of the industry. However, the economic condition of the pollution line of the insurance market has not been documented, primarily because of the lack of specific pollution insurance data. As a result, we gathered data on this issue through discussions with insurance and reinsurance company executives, associations, and state regulators. We obtained opinions, anecdotal information, and other information on several issues:



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**Appendix II**  
**Objective, Scope, and Methodology**

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- The status of the pollution insurance market as it relates to the economic condition of the industry as a whole.
- Which companies are writing pollution insurance, for whom, coverage provided, premiums charged, and the relative amount of premiums obtained by pollution liability insurance.
- Which companies have stopped writing pollution insurance and why.
- The lack of historical data on damages and risks needed to set premiums.
- The influence and control of insurers and reinsurers over the pollution liability insurance market.

In addition, we discussed with the insurance industry officials identified above the possible causes of observed changes in the pollution liability insurance and reinsurance markets and the impact on insurers of possible expansion and uncertainty of liability due to (1) recent court decisions under tort and other state and federal statutes and (2) technological uncertainty regarding the ability of waste handlers to safely store and treat hazardous materials.

Treatment, storage, and disposal facilities are required by RCRA to prove financial responsibility (with insurance being one method of doing this). We discussed the availability of pollution insurance with two associations representing TSDFs. To document financial responsibility requirements for TSDFs, we reviewed RCRA-mandated financial responsibility requirements and related implementing regulations. Through telephone contacts with hazardous waste officials in 15 states (Alabama, California, Colorado, Connecticut, Illinois, Indiana, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, and Texas) that regulated 68 percent of the TSDFs, we obtained information on state financial responsibility regulations. From officials at EPA headquarters and in 8 of its 10 regional offices (Region I through VIII) and officials in the 15 states we contacted, we obtained estimates of the extent that insurance is used by TSDFs and the impact of not having insurance coverage. In addition, we spoke to 11 TSDF owners/operators to determine how they covered their pollution liability. We also reviewed data contained in EPA's Hazardous Waste Data Management System, the Consolidated Data Base developed for 1,538 land disposal facilities, and EPA's July 1985 survey of the Loss of Interim Status facilities.

Generators, however, are not required to have insurance or report how they insure. Given the time frame for this work, it was not practical to systematically survey the 100,000 generators of hazardous substances.

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**Appendix II**  
**Objective, Scope, and Methodology**

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Generator insurability information was obtained primarily through discussion with four associations and five individual companies that volunteered to discuss this information with us. We also contacted three risk-retention groups that were in the formative stage and one that was unable to get started to determine the type and extent of coverage offered, membership, and premiums.

(B) Current trends in statutory and common law remedies.

To determine trends in remedies, we reviewed CERCLA and its 1986 amendments under SARA and case law for the standard of liability applied under CERCLA, as amended. In addition, we researched various potential liability situations that can arise in hazardous waste activities for parties that may be liable for releases. We also researched state statutes that provide remedies for personal injury and property damage caused by releases of hazardous substances. We researched court decisions and legal commentaries, such as the CERCLA 301(e) study, to determine common law causes of action and remedies for hazardous waste releases.

(C) The impact of possible changes in traditional standards of liability, proof, evidence, and damages on existing statutory and common law remedies.

To determine the impact of possible changes, we reviewed legal theories that have been developed in product liability cases that suggest possible changes in traditional standards in hazardous waste cases. We also reviewed state legislation to change tort law doctrines, such as joint and several liability and punitive damages, to determine how these changes might affect the ability of a victim to obtain a remedy.

(D) The effect of the standard of liability and extent of persons upon whom it is imposed under CERCLA, as amended, on the protection of human health and the environment and on the availability, underwriting, and pricing of insurance coverage.

On the basis of the information developed under issue B above, we discussed with insurance underwriters and risk assessors how the standards affect the availability, underwriting, and pricing of insurance. In addition, we discussed the standards with EPA officials to determine the impact on the financial responsibility requirement regulations.

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**Appendix II**  
**Objective, Scope, and Methodology**

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(E) Current trends, if any, in judicial interpretation and construction of applicable insurance contracts, together with the degree to which amendments in the language of such contracts and the description of the risks assumed could affect such trends.

We reviewed legal articles and relevant cases that illustrate current interpretations of certain key terms and coverage contained in insurance policies, including "occurrence," "sudden and accidental," the insurer's duty to defend, and coverage of damage to the insured's property. We also reviewed the development over recent decades of contracts for comprehensive general liability insurance and environmental impairment liability insurance. We obtained from the Insurance Services Office Inc. copies of these contracts and discussed with members of the Environmental Litigation Insurance Association the impact of possible changes in insurance contract language.

(F) The frequency and severity of a representative sample of claims closed during the calendar year immediately preceding the enactment of this subsection.

In the early stages of this survey, we met with insurance association officials and were told that there was no central source for identifying the universe of insurers that offered pollution insurance, either as part of a CGL policy or as a separate EIL policy. Given this situation, the American Insurance Association (AIA) suggested that we include in our survey the 20 top writers of "other liability," an insurance category under which they said most pollution coverage would be written. We adopted this approach, but we expanded the number of insurers to include the top 50 writers of "other liability." We did this to ensure that we were capturing the pollution claims activity at the smaller insurance companies that each write less than 1 percent of "other liability." Altogether, these 50 insurers constituted over 80 percent of the "other liability" market share in 1985.

We also included all past and current members of PLIA. PLIA is a reinsurance pool formed in January 1982 to provide 100-percent reinsurance and necessary services for member insurers who wish to offer pollution insurance.

In addition, we included insurers who have been known to write pollution insurance but were not included in the two groups defined above. We identified these companies through interviews, trade publications, and EPA documents. Included among these were major U.S. reinsurers

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**Appendix II**  
**Objective, Scope, and Methodology**

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whom we contacted to determine if they had written any direct pollution insurance.

In all, we contacted 104 insurance groups and companies. Although we aimed to be comprehensive in our survey and worked closely with insurance experts and associations in defining our target companies, we cannot determine the extent to which these 104 insurers include the entire universe of insurers who closed pollution claims in 1985.

Given the relatively short amount of time available to develop and administer the survey, as well as to analyze and report on the results, we kept the scope of the survey tightly focused on basic frequency/severity information. In developing the survey, we consulted insurance trade associations and companies on technical issues, such as the definition of a "closed" pollution claim, and the elements involved in measuring a pollution claim's severity. In the end, we decided to gather frequency and severity information by means of two short questionnaires sent directly to insurers. The first questionnaire gathered frequency data, and the second gathered severity data. Copies of these questionnaires are found in appendix III.

In our cover letters to the questionnaires, we noted that the insurers' participation in the survey was voluntary. We do not have authority to require their participation. However, we encouraged the insurers to complete the questionnaires by emphasizing the importance of the information to the Congress. We also encouraged participation by extending a pledge of confidentiality covering the data sent to us. We promised that no information on individual insurers would be included in our report — only summaries of aggregated data. As a further measure to insure the confidentiality of the data, the link between the mailing list and the company codes on the frequency questionnaires was broken at the conclusion of the survey. The severity questionnaires never contained insurance company identification numbers and remained anonymous. (The companies used a separate mailing to indicate that they had sent us their completed severity questionnaires.)

The survey results represent data provided to us by insurers. We did not attempt to verify these data, since insurers consider their claims files confidential.

(G) Impediments to the acquisition of insurance or other means of obtaining liability coverage other than those referred to in the preceding subparagraphs.

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Appendix II  
Objective, Scope, and Methodology

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Other possible impediments were discussed with officials of all organizations contacted in carrying out this review.

(H) Effects of the standards of liability and financial responsibility requirements imposed pursuant to this act on the cost of, and incentives for, developing and demonstrating alternative and innovative treatment technologies and waste generation minimization.

To determine the effects of the standard of liability and financial responsibility requirements on alternative and innovative technologies, we contacted EPA officials and companies with new technologies to update past and ongoing GAO, Congressional Budget Office (CBO), Office of Technology Assessment (OTA), and EPA reports on RCRA and CERCLA concerning permanent disposal and minimization technologies. These studies include the GAO report, Hazardous Waste EPA's Consideration of Permanent Cleanup Remedies (GAO/RCED-86-178BR; July 7, 1986); OTA reports, Serious Reduction of Hazardous Waste for Pollution Prevention and Industrial Efficiency, (September 1986), Superfund Strategy (March 1985), and Technologies and Management Strategies for Hazardous Waste Control, (March 1983); and the CBO report, Hazardous Waste Management Recent Changes and Policy Alternatives (May 1985).

We also reviewed RCRA financial requirements and discussed with representatives of hazardous waste generators, handlers, and disposers, and the insurance industry the impact of insurance on new technology development and implementation.

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As indicated above, we met with representatives of generators of hazardous substances, disposal facility owners or operators, persons liable for injury, groups comprised of persons adversely affected by releases of hazardous substances, groups organized for the protection of consumer interests, the Environmental Protection Agency, property/casualty insurers, reinsurers, and state insurance regulators. In addition to addressing specific audit issues with these representatives, we brought them together early in our work to review and discuss our approach to carrying out the mandates of the act.

# Frequency and Severity Questionnaires

## U.S. GENERAL ACCOUNTING OFFICE

Pollution Claims Survey  
Response Form

For the purposes of this survey, "pollution claims" are defined as (1) those types of claims presented against direct insurance policies providing coverage for sudden and/or gradual pollution, e.g. Environmental Impairment Liability (EIL) insurance, and (2) any direct insurance claims of the same type presented against Comprehensive General Liability (CGL) or similar policies. Do not include workers' compensation and non-environmental products liability claims.

Use your own organization's definitions of "open" and "closed" claims.

**NOTE TO INSURANCE GROUPS** The data you provide should represent the aggregate number of pollution claims for all affected companies that are part of your insurance group. (Please call John Finedore or Erin Bozik (202)-382-4326 if group data is not available.)

- 1 For calendar year 1985, how many pollution claims did your group/company close with payment? (FILL IN NUMBER IF NONE, ENTER "0".)

NUMBER

Questions 2a-c, below, are included at the request of members of the insurance industry, in order to help the Congress understand the extent of open pollution claims as of the end of 1985. Please provide this data if available.

- 2a. At the end of calendar year 1985, how many open pollution claims did your group/company have? (FILL IN NUMBER IF NONE, ENTER "0".)

NUMBER

- 2b. Of the number given in Question 2a, how many of these open claims were presented against EIL insurance? (FILL IN NUMBER. IF NONE, ENTER "0".)

NUMBER

- 2c. Of the number given in Question 2a, how many of these open claims were presented against CGL policies in which a review of the facts, applicable law, and policy provisions revealed no coverage defenses? (FILL IN NUMBER. IF NONE, ENTER "0".)

NUMBER

Please detach this response form from the cover letter and return the form in the enclosed addressed, postage-paid envelope. In the event the envelope is misplaced, the return address is:

Mr. Hugh Wessinger  
U.S. General Accounting Office  
Room 4073A  
441 G Street, N.W.  
Washington, DC 20548

Thank you for your participation in this survey.



**Appendix III  
Frequency and Severity Questionnaires**

U S GENERAL ACCOUNTING OFFICE

Survey of Pollution Claims Closed During 1985



**INTRODUCTION**

For the purposes of this survey, "pollution claims" are defined as (1) those types of claims presented against policies providing coverage for sudden and/or gradual pollution, e.g., Environmental Impairment Liability (EIL) insurance, and (2) any claims of the same type presented against Comprehensive General Liability (CGL) or similar policies. Do not include workers' compensation and non-environmental liability claims.

To avoid the double counting that would result from including reinsurance data, report only those pollution claims presented against direct insurance policies and provide claim costs prior to and exclusive of any reinsurance recoverable on the claim.

Complete one survey form for each pollution claim closed between January 1, 1985 and December 31, 1985, that resulted in a payment.

All information gathered on this survey will be kept confidential by the U S General Accounting Office. The data provided by you will be aggregated with data provided by other insurance companies. Only summaries of the aggregated data will be used in reporting information to the Congress. In order to assure confidentiality, this questionnaire contains no company identification code. The company code is found on the attached postcard. Detach the postcard and mail it separately when you mail the completed questionnaire. The postcard will let us know that your company has responded. A self-addressed, postage-paid envelope is provided so you can return your questionnaire(s).

In the event that the return envelope for the questionnaire is misplaced, the return address is:

Mr. Hugh Wessinger  
U S. General Accounting Office  
Room 4076A  
441 G Street, N.W.  
Washington, DC 20548

If you have any questions about this survey, please call John Pinedore or Erin Bozik on (202) 382-4326.

1. Against what type of policy was this pollution liability claim presented? (CHECK ONE.)
  1. ☐ Comprehensive General Liability
  2. ☐ Environmental Impairment Liability
  3. ☐ Other (SPECIFY) \_\_\_\_\_
2. On what date did the insured first present the claim against your company? (FILL IN MONTH AND YEAR.)
 

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Month / Year
3. Under what period(s) of the policy was this claim paid? (FILL IN DATES)
 

FROM \_\_\_\_\_  
Month / Year

TO \_\_\_\_\_  
Month / Year
4. What is the primary business of the insured party? (CHECK ONE)
  1. ☐ Manufacturing
  2. ☐ Mining/Smelting/Ore processing
  3. ☐ Commercial waste treatment/storage/disposal
  4. ☐ Municipal waste treatment/storage/clean up
  5. ☐ Other (SPECIFY) \_\_\_\_\_

(QUESTIONS CONTINUE ON THE OTHER SIDE)



**Appendix III  
Frequency and Severity Questionnaires**

5. What was the primary nature of the incident leading to this claim? (CHECK ONE)

1. ☐ A release associated with a manufacturing process
2. ☐ A release associated with the treatment, storage, and/or disposal of waste products
3. ☐ A release associated with transportation (air, land, or water)
4. ☐ Other (SPECIFY) \_\_\_\_\_

6. Were legal costs expended in a dispute between your company and the insured over the pollution coverage? (For example, a dispute over your company's duty to defend the insured) (CHECK ONE.)

1. ☐ No ----> SKIP TO QUESTION 8
2. ☐ Yes

7. What was the dollar amount of legal expenses incurred by your company in resolving this policy coverage dispute? (FILL IN DOLLAR AMOUNT)

\$ \_\_\_\_\_

8. Did this claim involve a suit against the insured? (CHECK ONE)

1. ☐ No ----> SKIP TO QUESTION 11
2. ☐ Yes

9. Please identify the party or parties that brought the suit. (CHECK ALL THAT APPLY)

1. ☐ Federal Government
2. ☐ State Government
3. ☐ County/Local Government
4. ☐ Citizen suit
5. ☐ Other (SPECIFY) \_\_\_\_\_

10. What was the total dollar amount of legal expenses, court costs, and other related costs expended by your company in defense of the insured? (DO NOT INCLUDE COSTS YOU REPORTED IN QUESTION 7.)

\$ \_\_\_\_\_

11. How was the amount to be paid on this claim determined? (CHECK ONE)

1. ☐ Out-of-court settlement
2. ☐ Jury/Judge award
3. ☐ Other (SPECIFY) \_\_\_\_\_

12. What was the total cost to your company of the settlement/award on this claim prior to and exclusive of any insurance recoverable by your company on this claim? (INCLUDE THE AMOUNT OF ANY LUMP-SUM PAYMENT AND/OR THE COST OF ANY ANNUITY PURCHASED FOR FUTURE STRUCTURED PAYMENTS.)

\$ \_\_\_\_\_

13. Which of the following were included under the terms of the settlement/award paid by your company on this claim? (CHECK ALL THAT APPLY.)

1. ☐ Cleanup (remedial/removal-type actions)
2. ☐ Allegations of property damage
3. ☐ Allegations of natural resource damage
4. ☐ Allegations of personal/bodily injury
5. ☐ Other (SPECIFY) \_\_\_\_\_

THANK YOU FOR  
COMPLETING THIS QUESTIONNAIRE

**Appendix IV**

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## **EXHIBIT 9**



# **SUPERFUND: Building on the Past, Looking to the Future**

**April 22, 2004**

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## Chapter 2: **Improving Superfund Program Integration and Communication**

The success of the Superfund program has been and is dependent upon the partnership and collaboration of many of the Agency Offices and all of the Regions. The issues identified in this section of the study are those issues which could both strengthen this partnership and affect all offices that have Superfund responsibilities and resources. In addition, the Study team has identified some global program issues which could impact multiple offices. Some of these issues may have more detailed recommendations in other chapters.

### **Improving Overarching Leadership**

Several interviewees suggested a need for greater overall program coordination and integration of the efforts among the various offices (including the Regions) with Superfund responsibilities. With resources spread broadly across multiple EPA headquarters offices and the Regions, efforts end up less focused and less mutually supportive because different parts of the organization see themselves as beholden to their own program areas, rather than responsible for achieving overarching programmatic goals and mandates.

**Recommendation 1:** The Deputy Administrator should create an internal Superfund Board of Directors to improve program coordination, integration and accountability. The Office of Solid Waste and Emergency Response (OSWER) Assistant Administrator would chair this board which will be made up of EPA Assistant Administrators who manage Superfund resources and functions. The board would be co-chaired by the Office of Enforcement and Compliance Assurance (OECA) Assistant Administrator. Regional input would be secured at a minimum through the participation of the lead Region for Superfund. The board would address cross-cutting issues, set overarching Agency policies and priorities, and provide analytical support on cross-cutting management issues. (A rotating staff—detailed for six months at a time—could conduct analyses like those identified in this report, and the board could then act upon the findings.) (Near term)

The study team has identified four additional options as alternatives to the above recommendation:

**Option 1:** Designate a Senior Superfund Program Manager with responsibility and authority across all Superfund resources. Under this proposal, this individual would report directly to the Deputy Administrator, and the function would be the person's sole duty. The Senior Superfund Program Manager would focus on overall Agency-wide management issues, rather than on response execution (i.e., not oversight/review of remedy selection).

**Option 2:** Fulfill the same function as in Option 1 through a multi-office Deputy Assistant Administrator-level Board of Directors that includes regional representation. This approach recognizes that because several EPA headquarters offices and Regions have a stake in decisions and a role in their implementation, having broad input and shared decision-making responsibility is appropriate. Under this option, leadership of this board would rotate regularly.

**Option 3:** As a hybrid of Options 1 and 2, establish the Senior Superfund Program Manager position and designate a Superfund Board of Directors. The Senior Superfund Program Manager would chair the board and serve on behalf of the Deputy Administrator.

**Option 4:** In lieu of a Senior Superfund Program Manager, designate or delegate as much responsibility and authority for the Superfund program as possible to the OSWER Assistant Administrator, who would be responsible for setting Agency-wide Superfund policy spanning response, enforcement, research and development, and resource management, with all the staff working in these areas taking policy direction from this single Assistant Administrator.

### **Articulating the Goals and Measuring Progress of Today's Superfund Program**

A clear strength of the Superfund program is its ability to mobilize a range of technical and programmatic assets to accomplish a variety of tasks. Far from a one-dimensional cleanup program, Superfund has continued to apply new approaches, like the use of Superfund Alternative Sites, and adopt new ways of leveraging other authorities and resources to achieve cleanups.

One reason the Superfund program has evolved in this way is the significant change in the type and number of sites. Today's Superfund sites are far more varied than sites like Love Canal and Valley of the Drums, which provided the initial impetus for the program's formation. Listing such a wide variety of sites has, in turn, created the expectation among many groups that Superfund will virtually always be a safety net to provide cleanups when other response mechanisms or programs cannot achieve them. This strength has created an expectation that Superfund will rise to the task when new or significant problems arise. Perhaps the most recent example is the application of EPA's capability to respond to terrorist incidents and the *Columbia* space shuttle disaster.

The availability of so many options and permutations, however, also can be a weakness if the goals of the Superfund program are not clearly identified and articulated. Currently,

with respect to National Priorities List (NPL) sites alone, the program is seeking to meet at least four different goals: completing all construction at a site, maintaining work at all ongoing remedial actions, addressing worst sites first for new starts, and making sites ready for reuse. Also, some EPA Regions have an additional and significant commitment to cleaning up Superfund Alternative Sites. All of these goals are competing for the same limited resources. The study team's sense from discussing the Superfund program with a wide spectrum of interested parties is that, at present, program leadership needs to more finely hone the program's goals and more clearly articulate the relative priority among these goals.

Recently, even the emphasis on directing more resources to remedial actions (the focus of this report) suggests an opportunity to improve how the Agency tracks and communicates both internally and externally the accomplishments of the Superfund program. For example, if a traditional remedial action, a non-time-critical removal, a Superfund Alternative Site cleanup, and a state voluntary cleanup program remedy motivated by a threat of potential NPL listing all achieve substantially the same result, why is the Agency not more accomplished at gathering data on these actions and reporting them collectively as a success story? EPA has begun to do this by reporting Superfund Alternative Site completions in the same way as NPL completions, but until the Agency can report on the full impact of Superfund, its observers, including members of Congress, will not understand how much the program has actually accomplished.

Discussions during many of the interviews conducted by the study team, and the regional responses to interview questions, suggest that Superfund performance measures often do not encourage program coordination, cooperation, and collaboration. This is part of the reasoning behind the recommendation for the Superfund Board of Directors presented in the previous section, but it also points to the need for more clearly defined and articulated goals for the program.

**Recommendation 2:** Senior program managers should evaluate the program's current goals and objectives and clearly communicate the hierarchy among these goals to ensure that Superfund resources are properly directed to achieve the Agency's most important goals. This action is critical in the area of NPL site cleanups to ensure that the limited funds available for long term cleanups (remedial actions) are maximized and appropriately allocated. (Near term)

**Recommendation 3:** OSWER and the lead Region should spearhead an effort to develop performance measures that are consistent with the newly articulated hierarchy of goals. For example, if the Agency decides to count cleanups, no matter what the source, the performance measure should include NPL construction completions, Superfund Alternative Site completions, removal actions that complete all of the work at an NPL site, and voluntary cleanups. (Near term)

### **Clarifying the Role of the NPL**

The study team's interviews support the view that a strong federal Superfund program—which includes listing, studies, and cleanups, as necessary—is vital to the success of the Brownfields and state voluntary cleanup programs. A robust federal program provides a powerful incentive for private parties to do work under state regulatory and voluntary programs. The continued listing of sites on the NPL is needed to create the “gorilla in the closet” effect, which increases the effectiveness of these other programs. A strong and balanced federal program also encourages responsible parties to undertake cleanup, whether at an NPL or non-NPL site.

In addition, if the Agency artificially constrains NPL listing, it is not accurately depicting for Congress or the public the true magnitude of the potential Superfund universe. Although fewer sites today than at the program's inception require NPL listing, many of the people interviewed by the study team fully expect the need for listing to continue. The challenge is to create a list of sites that truly need to be addressed, while being mindful of the potential to create a backlog of NPL sites that lie dormant due to a lack of funds.

**Recommendation 4:** OSWER and the Regions should work together to maintain a sufficient rate of listing on the NPL to provide a clear incentive for potentially responsible parties (PRPs) to perform work under the Superfund program as well as other programs or authorities. (Near term)

### **Using Fund-Lead Work as an Enforcement Lever**

Individuals inside and outside EPA have noted the importance of managing the annual appropriation so that it is clear to PRPs that sufficient funds are always available for starting cleanup work, if they fail to. Without those funds (and a general awareness of those funds), PRPs have less of an incentive to negotiate with the Agency to conduct work at sites, and the recalcitrant behavior of some PRPs is not quickly addressed.

**Recommendation 5:** OSWER should allocate resources to start Fund-lead actions (work conducted at Superfund sites by EPA) at every step in the Superfund pipeline, thereby motivating PRPs to commit to taking on work and freeing up appropriated dollars over the longer term. (Near term)

### **Supporting EPA's One Cleanup Goal**

The One Cleanup Program is EPA's vision for managing its various cleanup programs so that at all levels of government can work together to improve the coordination, speed, and effectiveness of cleanups at contaminated sites. The program envisions similar outcomes for similar site situations, regardless of whether EPA is cleaning up a Superfund site, a Resource Conservation and Recovery Act (RCRA) corrective action site, or a leaking underground storage tank. For the same pollutants in a similar situation, the program should achieve an equivalent result.

To achieve this goal, EPA is implementing and promoting management activities that require coordination and planning among the various EPA, state, tribal, federal, and local cleanup programs. EPA is also developing information systems that will allow different programs to easily share and communicate cleanup information to the public. Finally, EPA is collaborating with its partners to develop better performance measures that demonstrate the overall effectiveness and benefit of the nation's combined cleanup efforts.

**Recommendation 6:** OSWER should promote the One Cleanup Program more aggressively and set more ambitious targets for policy and guidance development in order to continue to improve the coordination, speed, and effectiveness of cleanups. (Near term)

**Recommendation 7:** OSWER and OECA should build upon their work to improve and strengthen performance measurement by establishing measures that encourage the various cleanup approaches to complement each other. For example, OSWER could adopt a measure that treats a Superfund Alternative Site completion like an NPL construction completion, and an NPL construction completion like a fully protective removal action. OSWER should also consider broadening this measure to incorporate RCRA corrective actions under a “one cleanup” umbrella. (Near term)

### **Measuring Performance**

At one time in the past, tracking and reporting Superfund accomplishments were overemphasized, and virtually every milestone in the cleanup process was closely monitored. Regions were able to assert that the administrative burden of this work hardly justified the trade-off in available time to perform work more directly related to actual cleanups. Today, although many of these measures remain, EPA is recognizing the need for more integrated performance measures and monitoring tools. Consequently, the Superfund program is developing useful and appropriate efficiency measures. This effort was selected to receive additional support through the Office of the Chief Financial Officer/Office of Policy, Economics and Innovation (OCFO/OPEI) Measures Development competition. To date, the program has convened a workgroup to brainstorm and study a wide variety of potential efficiency measures, including long-term efficiency, annual efficiency, and program management types of measures. Current efforts are focused on the feasibility, appropriateness, and usefulness of the identified potential measures. The program plans to select and implement at least one new measure for FY 2005.

**Recommendation 8:** All national program managers (NPMs) with Superfund resources, with their Lead Regions, should adopt and track a manageable number of meaningful regionally specific performance measures; ensure data systems are in place to facilitate timely and accurate reporting; and consider using measures beyond traditional cleanup milestones, including financial management, resource utilization, and cost recovery effectiveness. (Near term)

**Recommendation 9:** OSWER and OECA should consider adopting goals that cut across different program activities (e.g., cleanup completions through use of any tool or combination of tools) to improve teamwork and gain full recognition for all work that produces similar outcomes. (Near term)

### **Preventing Future Sites**

The prevention of a continually expanding Superfund site universe will depend largely upon a strong RCRA program. Some sites are on the NPL that as a direct result of insufficient financial assurances to fund the cleanup necessary when the facility at that location ceased operation. Similarly, removal actions occur at RCRA generators, which are not required to provide financial assurances. The Agency eventually lists some of these sites on the NPL.

A number of interviewees think that certain decisions made in the RCRA program may result in the need for additional future cleanups under Superfund. For example, there is a fairly broadly held belief that EPA could substantially reduce future Superfund workload if it revamped regulations and policies that enable the start-up and continuation of operations that handle hazardous wastes, but whose financial and/or technical wherewithal to prevent or respond to releases is questionable.

**Recommendation 10:** OSWER should evaluate the history of NPL listings and removal actions to determine what percent were RCRA treatment, storage, and disposal facilities or hazardous waste generators and to what extent these facilities present a continuing burden to the Superfund program. (Near term)

**Recommendation 11:** If the evaluation confirms a high correlation with RCRA-regulated facilities, OSWER and OECA should examine different approaches to financial assurance under the RCRA program to reduce the likelihood of RCRA-regulated facilities becoming part of the future Superfund universe. (Long term)

**Recommendation 12:** For facilities not covered under RCRA, OSWER should study whether promulgating new regulations under CERCLA's broad financial assurance authorities could reduce the future needs of the Superfund program. (Long term)

### **Communicating Program Funding Within and Outside of EPA**

Congress and others outside the Agency have expressed concern that the Agency is not spending enough money on cleaning up Superfund sites. In its FY 2004 report, the Senate Appropriations Committee noted that the Agency was spending only 16 percent of the annual appropriation on site construction and long term response actions and directed the Agency to spend no less than the 22 percent of the annual appropriation. When the Conference Committee completed its work on the Agency's 2004 budget, it did not direct the Agency to target a specific percentage of funding to site construction.



A concern within EPA is that expenditures for long term cleanups (remedial actions) and long term response actions do not represent all of the funding being spent on cleanups. The percentage referenced by the Senate Appropriations Committee understates the true amount invested in cleanup because it only represents the money going to contractors and other federal agencies. But more importantly, it does not include other key activities that are speeding up all long term cleanups at Superfund sites. (The Agency does not estimate specific payroll costs each year for these individual activities. Therefore, the Agency could only capture these costs after the year ends.)

The cost of cleanup should include:

- The cost of short term cleanups (removals) at NPL sites;
- The cost of long term cleanups (remedial actions) and post construction work at NPL sites;
- The cost of overseeing potentially responsible parties (PRPs) cleanup actions; and
- The EPA payroll costs associated with these actions.

Even the costs described above do not capture the very real costs of all of the necessary steps that must occur before a site reaches the cleanup phase. These costs include:

- The cost of addressing immediate public health concerns (removal actions) at non-NPL sites;
- The cost of discovering, listing, and studying sites to choose the right cleanup approach;
- The cost of gathering analytical data to support the science behind the cleanup;
- The costs that support the identification of, and negotiations and settlements with, PRPs to conduct feasibility studies and site designs; and
- The cost of technical assistance from the Office of Research and Development for site characterization and remedy selection.

Over 70 percent of Superfund cleanups are currently performed by PRPs as a result of the Agency's vigorous enforcement program. The costs of the enforcement program typically are not included as part of the cost of cleanups.

**Recommendation 13:** The Agency should collect data at the end of the budget year on the amount of funds spent on cleanup or on those activities that are necessary to get to the cleanup phase and communicate the cost of cleanups more effectively. (These amounts would include the contract and payroll costs associated with the activities defined above). (Near Term)

### **Allocating Superfund Dollars Effectively**

As part of its internal budget allocation process, EPA set up distinctions and definitions for Superfund dollars, which are used today by Congress and the Office of Management and Budget (OMB). However, these definitions have become self-imposed limitations, resulting in unnecessary internal transaction costs when money needs to be moved around

or funds “transformed” for different uses. For example, in FY 2004, for response activities, the Regions now receive four separate allocations of contract funds in addition to a separate allocation for payroll.

**Recommendation 14:** OSWER and the Regions, in coordination with OCFO, should work together to identify ways to simplify the internal budget structure. If needed, the Agency can work with OMB and Congress to implement the new structure so that funds can be used as efficiently as possible. (Long term)

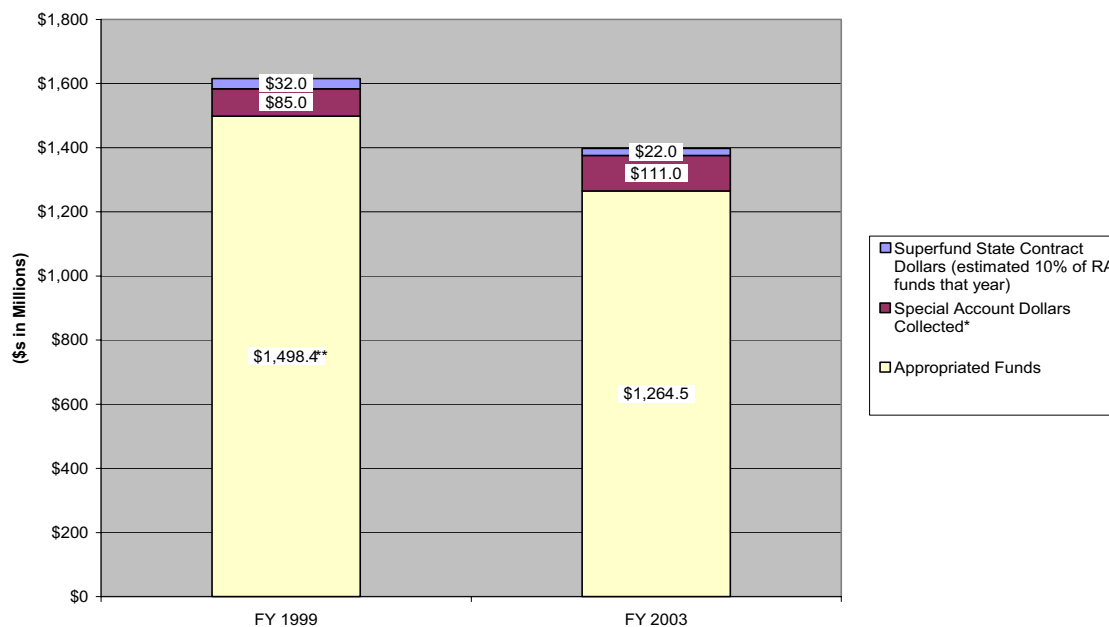
### **Improving Understanding of Funding Availability**

Individuals inside and outside the Agency expressed a range of opinions on how Superfund funding has been allocated and spent over the years. These perceptions include a belief that only certain portions of the program have been cut by the President, Congress, or as part of the development of the Agency’s Operating Plan. In addition, some people feel that EPA offices or Regions have not always spent the funds they have received. Several people outside the Agency strongly expressed the opinion that the original allocations made at the Superfund program’s inception need to be examined closely to determine if they still meet the needs of the program as it has evolved.

To complicate the issue further, the program has not always communicated the total dollars available to conduct its work. For example, the Agency began establishing special accounts many years ago, and the states are statutorily required to provide 10 percent of the funding for remedial actions. These dollars, however, are not identified as a part of the Agency’s funding to conduct its program.

**Recommendation 15:** OSWER and OECA should include special account and state cost share as they allocate funds internally and communicate funding availability. (Near term)

**Figure 1: Superfund Dollars for FY 1999 & 2003 from Appropriations, Special Accounts, and Superfund State Contracts**  
 (\$ in millions)



\*Dollars may only be used consistent with the consent decree.

\*\*The FY 1999 operating plan included funding for the Brownfields program (\$90 million) and ATSDR and NIEHS (\$130 million). These programs were funded by other appropriations in FY 2003.

### Reducing Costs to Meet Numerical Targets

As discussed earlier, the Superfund program in recent years has lacked the funds to start all long term cleanups that are ready to begin. While this shortfall cannot be overcome by programmatic and resource changes alone, on numerous occasions, interviewees noted that the Superfund program lacks an "always look for the most cost-effective approach" culture. Although this critique is difficult to confirm or refute empirically, it seems likely that across such a large budget, there is room for improvement if the pressure is there to find it. Several individuals suggested the need to establish specific numerical budget-reduction targets as a forcing mechanism to motivate innovation and creativity within the appropriated budget. The notion is that mandated, tangible reductions that can be set and tracked are much more likely to result in meaningful or innovative cost-saving efforts than general encouragement or direction. The program could then direct resources from the mandated reductions to identified priorities (e.g., remedial action funding or enforcement contracts). This approach offers several options for achieving reductions:

**Option 1:** *Pro rata cut* – The Agency should execute an across-the-board, pro rata cut based on an estimated need for remedial action funding, and should make exceptions only on an extremely limited basis. (Near term)

Once the cut is made, each organization can propose how it intends to implement the reduction. This approach assumes there is enough leeway in all major areas supported by Superfund dollars to make an across-the-board cut possible without weakening the program, and also maximizes “sharing of the pain.” On the other hand, this approach will seem inequitable to offices that have adopted cost-conscious practices, and will effectively reward those that have not. Therefore, this approach may need to be in addition to—not in lieu of—other measures. To avoid actually slowing down cleanup progress due to these cuts, the Agency will need to examine where efficiency improvements can make up for decreased resources.

**Option 2:** *Targeted cut* – The Agency should mandate specified numerical reductions, but target the reductions by amount and organization. (Near term)

This approach offers the ability to recognize program areas and offices that have already received reductions or are striving for more efficient resource utilization.

**Option 3:** *Hybrid approach* – The Agency should set numerical targets in a tiered structure, to achieve a hybrid between Option 1 and Option 2. (Near term)

Under this option, the Agency would establish both a relatively low-percentage, across-the-board cut, as in Option 1, and additional percentage cuts tailored to specific functions or organizations. This hybrid approach would acknowledge the distinction between leaner, more efficient areas and areas that appear to be capable of sustaining steeper reductions, while also preserving the notion that everyone is required to participate.

**Option 4:** *No initial cuts* – The Agency should make no cuts initially until it has implemented some of the programmatic and management recommendations. (Long term)

### **Sharing Regional FTEs and Resources across Regions**

Nationally, the Superfund program has the skills and resources that have resulted in cleaning up almost 900 NPL sites and over 7000 removal actions. However, since the FTE distribution has remained relatively unchanged by Region since the early 1990’s, some Regions have been able to complete more of their Superfund workload than other Regions.

In addition, programmatic needs have change. For example, the emergency response program has focused its work more nationally since September 11, 2001, with emergency response assets in each Region strategically aligned to help respond to larger-scale emergencies in other Regions. Work at sites after construction has been completed has also grown significantly as more and more sites are completed.

Also, Region 7's acquisition branch also services Region 10. While the savings of this consolidation have not been quantified, Region 10 believes that the benefits clearly outweigh the costs. It seems reasonable to assume that further consolidation of contracts administration or other administrative functions (e.g., human resources, grants management) would yield additional benefits.

Certain Regions clearly have developed strong programmatic capabilities in certain key areas (e.g., PRP searches and contracting) relative to other Regions. In some instances, one Region has a strong capability, but over time forecasts a decreasing need for that capability, while another Region has that same need but has fewer FTE to do the work.

The interviews suggest that in the longer term, the overall FTE allocation among the Regions needs to be revisited more fundamentally. In the early 1990's, the Agency chose to no longer redistribute staff positions across the Regions on an annual basis, effectively "freezing" the number of positions each Region receives. Therefore, baseline FTE allocation has not been adjusted even though workloads have changed. A strong perception – at the very least – remains that some Regions continue to reap a windfall from this freezing of the FTE allocation.

The Agency has begun to develop workforce strategies that will assist every organization with evaluating its current workforce's skills and abilities and planning for the Superfund program's short and long term needs. For example, in the interviews, many managers talked about the current and future issues that they and their staff are addressing, including needing a better understanding of insurance and learning how to accelerate cost recovery as the number of bankruptcies increases. Another emerging area is post-construction care or assuring proper long term operations and maintenance at completed sites. Many sites, although the responsibility of the states (for funding operation and maintenance) or run by PRPs, will continue to require Agency attention. Many sites where construction is complete have institutional controls in place to restrict access because waste has been left on site. Monitoring and conducting the statutorily required reviews of these sites will require expertise and resources, but much of this work, unlike remedy selection and construction, could reasonably be shared between Regions.

**Recommendation 16:** All national program managers with Superfund resources should evaluate and pursue opportunities for greater resource or work sharing among Regions, especially in support areas. Where appropriate, the Agency should establish consolidation targets, such as a specific number of contract management "centers" to support all ten Regions, or specific types of analytical support being conducted by the regional laboratories. (Long term)

**Recommendation 17:** The lead Region should facilitate a process that takes advantage of capabilities already developed and demonstrated in areas of programmatic specialization by encouraging Regions with needs in these areas to obtain support from the Regions with the capability and capacity to take on more work. No actual FTE adjustment is necessarily envisioned to implement this measure. Rather, the Region with the established competency would be allowed to keep its FTE in return for assuming

work to fill its capacity, while the Region with the need would be expected to transfer its work, rather than receive more resources to acquire or develop its own competency. Work for consideration could include a full range of activities from PRP searches and technical assistance to cleaning up an entire site. (Long term)

**Recommendation 18:** The Agency should conduct benchmarking studies of regional performance in both management and programmatic areas to ensure that all aspects of the program are focusing on improving performance. Once an activity is benchmarked, relevant offices should develop measures to ensure that underperforming Regions improve their performance to benchmarked levels. Those measures could then be used as standards for performance. (Long term)

**Recommendation 19:** The Agency should execute other smaller-scale adjustments as appropriate, and begin setting the stage now for redistributing staff positions in FY 2007, after the consolidations, specializations, and results of benchmarking have been reviewed and incorporated. (Near term)

### **Evaluating Headquarters FTEs**

By design, the Regions conduct the bulk of the Superfund program. When Superfund was in its infancy, it was appropriate for regional implementation to be supported and guided by a strong, centralized programmatic policy and oversight apparatus. Although headquarters offices have reduced staffing levels in recent years, the question arises as to whether the current level of headquarters staffing and skill mix is appropriate, now that the program has matured.

**Recommendation 20:** The Agency should evaluate headquarters Superfund FTE and make every effort to redirect resources to activities that more directly contribute to site cleanups. (Near term)

### **Moving Funding via Immediate, One-time Opportunities**

Interviews and data reviews have helped identify a number of one-time opportunities to gain access to sums of money that could be distributed to remedial action work or other priorities. Despite a number of years with total deobligations in the \$100 million range, significant amounts of money remain underutilized. Some Regions appear to be holding this money as a hedge against tough financial times; the impetuses for this study suggest that the Superfund program is experiencing these tough financial times. Three potential areas for consideration include:

*IAGs, Grants, and Contracts*—Even with the increased focus in recent years on grants and contracts management, opportunities continue to exist across the country for closing out IAGs, grants, and expired contracts. Reinforcing established policies on when to process actions in conjunction with some enhanced incentives (e.g., setting aside a central pool of money to address indirect cost rate adjustments or other trailing costs, and simplifying the return of money

to the deobligating Region for priority work) could encourage Regions to free up funds for deobligation.

*Superfund State Contracts*—A review of site financial data and responses by interviewees revealed that in a number of cases the Agency has deferred the resolution of potentially tough issues related to Superfund State Contracts. In some cases, the Agency has been slow in returning to states overpayments of state matches. In other cases, the Agency has been equally slow to collect required state match payments. It also appears that the remedy selection process, through the use of interim records of decision, has deferred starting the clock for state take-over of potentially expensive long-term response actions. As a result, the program does not appear to have established and reinforced a clear expectation for the timely definition and completion of the appropriate state share of cleanup costs.

*Special Accounts*—In addition to discussions elsewhere in this report regarding utilization of funds from special accounts, in some cases special account dollars remain unobligated or unspent, even after a significant time beyond when work at a site has been completed. At present, there does not appear to be particular attention or pressure to identify and take the necessary steps to mobilize these funds to help complete priority work.

While the majority of the actions required to free up monies in these three areas may be routine, some of them may require policy and procedure revisions or clarifications. The keys to success in reviewing obligated funds for possible deobligations are leadership by one office and partnership across all offices and Regions. Over the last several years, OSWER has taken a leadership role bringing together OECA, the Office of Administration and Resources Management, OCFO and the Regions to focus on deobligating available funds from contracts. This partnership has been successful and is being expanded to include grants and interagency agreements. Also, while these one-time savings are important, and freeing up this money will help with the shortfall now being experienced for funding long term cleanups, this effort alone will not close the funding gap for these remedial actions. Without a clear definition of expectations for managing these funds and tracking of their management, significant funds could again accumulate in these accounts.

**Recommendation 21:** EPA Regions and Headquarters should establish a schedule for FY 2004 deobligations and initiate actions immediately so the funds will be available during this fiscal year. (Near term)

**Recommendation 22:** OSWER and OECA should review guidance and policies to ensure that they are addressing current and future needs and follow up with the Regions on using the guidance and policies. For example, the guidance on Superfund State Contracts is 14 years old and may need to be revisited to improve the timeliness of receipt, obligation, and expenditure of funds. (Near term)



## **EXHIBIT 10**

GAO

Report to the Ranking Minority Member,  
Committee on Homeland Security and  
Governmental Affairs, U.S. Senate

June 2005

# HARDROCK MINING

## BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs



June 2005



Highlights of [GAO-05-377](#), a report to the Ranking Minority Member, Committee on Homeland Security and Governmental Affairs, U.S. Senate

## Why GAO Did This Study

Since the General Mining Act of 1872, billions of dollars in hardrock minerals, such as gold, have been extracted from federal land now managed by the Department of the Interior's Bureau of Land Management (BLM). For years, some mining operators did not reclaim land, creating environmental, health, and safety risks. Beginning in 1981, federal regulations required all operators to reclaim BLM land disturbed by these operations. In 2001, federal regulations began requiring operators to provide financial assurances before they began exploration or mining operations. GAO was asked to determine the (1) types, amount, and coverage of financial assurances operators currently use; (2) extent to which financial assurance providers and others have paid to reclaim land not reclaimed by the operator since BLM began requiring financial assurances; and (3) reliability and sufficiency of BLM's automated information system (LR2000) for managing financial assurances for hardrock operations.

## What GAO Recommends

GAO recommends that BLM strengthen its management of financial assurances by requiring its state office directors to develop an action plan for ensuring operators have adequate financial assurances and improving the reliability and sufficiency of LR2000. Interior did not concur with the recommendations; GAO believes they are needed to ensure adequate financial assurances.

[www.gao.gov/cgi-bin/getrpt?GAO-05-377](http://www.gao.gov/cgi-bin/getrpt?GAO-05-377).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Robin M. Nazzaro at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov).

## HARDROCK MINING

# BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs

## What GAO Found

According to GAO's survey of BLM state offices, as of July 2004, hardrock operators were using 11 types of financial assurances, valued at about \$837 million, to guarantee reclamation costs for existing hardrock operations on BLM land. Surety bonds, letters of credit, and corporate guarantees accounted for most of the assurances' value. However, these financial assurances may not fully cover all future reclamation costs for these existing hardrock operations if operators do not complete required reclamation. BLM reported that, as of July 2004, some existing hardrock operations do not have financial assurances and some have no or outdated reclamation plans and/or cost estimates, on which financial assurances should be based.

BLM identified 48 hardrock operations on BLM land that had ceased and not been reclaimed by operators since it began requiring financial assurances. BLM reported that the most recent cost estimates for 43 of these operations totaled about \$136 million, with no adjustment for inflation; it did not report reclamation cost estimates for the other 5 operations. However, as of July 2004, financial assurances had paid or guaranteed \$69 million and federal agencies and others had provided \$10.6 million to pay for reclamation, leaving \$56.4 million in reclamation costs unfunded. Financial assurances were not adequate to pay all estimated costs for required reclamation for 25 of the 48 operations because (1) some operations did not have financial assurances, despite BLM efforts in some cases to make the operators provide them; (2) some operations' financial assurances were less than the most recent reclamation cost estimates; and (3) some financial assurance providers went bankrupt. Also, cost estimates may be understated for about half of the remaining 23 operations because the estimates may not have been updated to reflect inflation or other factors.

BLM's LR2000 is not reliable and sufficient for managing financial assurances for hardrock operations because BLM staff do not always update information and LR2000 is not currently designed to track certain critical information. Specifically, staff have not entered information on each operation, and for those operations that are included, the information is not always current. Also, LR2000 does not track some critical information—operations' basic status, some types of allowable assurances, and state- and county-held financial assurances. Given these limitations, BLM's reliance on LR2000 to manage financial assurances is mixed: headquarters does not always rely on it and BLM state offices' reliance varies. To compensate for LR2000's limitations, some BLM offices use informal record-keeping systems to help manage hardrock operations and financial assurances. BLM has taken some steps and identified others to improve LR2000 for managing financial assurances for hardrock operations.

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**Abbreviations**

ALIS	Alaska Land Information System
BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Restoration, Compensation, and Liability Act of 1980
LR2000	Legacy Rehost 2000
RAMS	Restoration of Abandoned Mine Sites

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United States Government Accountability Office  
Washington, D.C. 20548

June 20, 2005

The Honorable Joseph I. Lieberman  
Ranking Minority Member  
Committee on Homeland Security and Governmental Affairs  
United States Senate

Dear Senator Lieberman:

The General Mining Act of 1872 encouraged development of the West by allowing individuals<sup>1</sup> to stake claims and obtain exclusive rights to gold, silver, copper, and other valuable hardrock mineral deposits on land belonging to the United States. Since then, thousands of operators<sup>2</sup> have extracted billions of dollars worth of hardrock minerals from land now managed by the Department of the Interior's Bureau of Land Management (BLM)—the agency that manages the largest amount of federal land.<sup>3</sup> However, some operators did not reclaim BLM land disturbed by hardrock operations related to exploration, mining, and mineral processing when their operations ceased. These operators left BLM with many thousands of acres of disturbed land, some of which posed environmental and health and safety risks.

The Federal Land Policy and Management Act of 1976 states that the Secretary of the Interior shall take any action required to prevent the “unnecessary or undue degradation” of public land and its resources. BLM has developed and revised regulations and issued policy under this provision. Specifically, BLM issued regulations, effective in 1981, that require all operators to reclaim BLM land disturbed by their hardrock operations. For plan-level operations—those disturbing over 5 acres of land or those in certain designated areas, such as the national wild and scenic rivers system—operators were to have a BLM-approved plan that

<sup>1</sup>Individuals include citizens and people declaring an intention to become citizens.

<sup>2</sup>For simplicity in this report, we refer to claimants and operators as operators. An operator is the person who conducts operations in connection with exploration, mining, and processing hardrock minerals on BLM land. Both the claimant and operator are responsible for reclamation.

<sup>3</sup>BLM manages about 261 million acres, most of which are located in 12 western states, including Alaska. Other federal agencies, such as the Department of Agriculture's Forest Service, also manage federal land available for hardrock operations. For simplicity in this report, we refer to BLM-managed land as BLM land.

documented all the anticipated hardrock activities and all required reclamation. For notice-level operations—those causing a surface disturbance of 5 acres or less—operators were to submit notices that informed BLM of the operators’ intentions, but these notices did not require BLM’s approval. Plans have to be approved and notices received by BLM before the operators begin exploration or mining operations. Also, to guarantee that reclamation costs are paid, these regulations stated that BLM could require plan-level operators to provide bonds or other financial assurances in an amount specified by BLM, taking into consideration the estimated cost of reasonable stabilization and reclamation of the disturbed land.<sup>4</sup> BLM also could require notice-level operators with a history of noncompliance with federal regulations to submit a plan of operation and thus notice-level operators could be required to provide financial assurances. Through a formal agreement, BLM can designate a state agency as responsible for managing some or all hardrock requirements, including financial assurances.<sup>5</sup> Operators have used a variety of types of financial assurances, ranging from funded assurances, such as cash and negotiable U.S. securities, to corporate guarantees, which are promises to complete reclamation that are backed only by the financial strength of the operator. Despite having the regulatory authority to do so, BLM rarely required operators to provide financial assurances throughout the 1980s.<sup>6</sup>

In August 1990, BLM issued a policy instructing BLM officials to require operators to provide financial assurances for all plan-level operations and for notice-level operations if the operators had a record of noncompliance with federal regulations.<sup>7</sup> BLM generally limited financial assurances to

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<sup>4</sup>The regulations stated that in lieu of a bond, the operator (1) could deposit in a federal depository account of the United States, directed by BLM, cash or negotiable U.S. securities or (2) show evidence of an existing bond provided for the operation pursuant to state law or regulations.

<sup>5</sup>Financial assurances could have been payable to either BLM or the designated state agency, depending on the terms of the agreement between BLM and the state, which are to coordinate efforts and avoid duplication of financial assurances and other requirements. These agreements may establish joint federal-state program management and enforcement of hardrock operations on BLM land or assign primary responsibility for management to either BLM or the state.

<sup>6</sup>GAO, *Importance of Financial Guarantees for Ensuring Reclamation of Federal Lands*, [GAO/T-RCED-89-13](#) (Washington, D.C.: Mar. 7, 1989).

<sup>7</sup>BLM Instruction Memorandum No. 90-582, *Modification of Bonding Policy for Plans of Operation Authorized by 43 CFR 3809* (Aug. 14, 1990).

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\$1,000 per acre for exploration and \$2,000 per acre for mining operations. However, BLM required operators using leaching chemicals, such as cyanide and sulfuric acid, to extract minerals from ore and required operators with a record of noncompliance to provide financial assurances to cover all estimated reclamation costs for hardrock operations. For these operations, BLM was to estimate the cost of reclamation and add to it the reasonable administrative costs that would be incurred if reclamation were done under contract. However, BLM did not further specify the types of financial assurances that could or could not be used.

Concerns about the types of financial assurance and the lack of financial assurances requirements for all notice-level operations, among other things, prompted BLM to establish new regulations in 2001. The new regulations require operators to include reclamation plans and cost estimates in the notices and plans of operation that they submit to BLM for acceptance or approval. The new regulations require that before exploration or mining operations begin, operators must provide financial assurances to cover all estimated reclamation costs for both notice- and plan-level hardrock operations. In addition, BLM must periodically review the estimated cost of reclamation to determine if the cost estimates should be updated. The regulations also specify the types of acceptable financial assurances and prohibit new corporate guarantees and increases or transfers in the corporate guarantees used under BLM's previous policy. The financial assurance provisions of the new regulations applied immediately—on January 20, 2001, for new notice- and plan-level operations and on January 20, 2003, for extended notice-level operations, unless the notice was modified.<sup>8</sup> Plans of operations that were approved before January 20, 2001, were required to have financial assurances in place no later than November 20, 2001.

Under federal regulations, if an operator fails to complete required reclamation, BLM or the designated state agency may take steps to obtain funds from the financial assurance providers. Providers then have the option of (1) relinquishing the amount guaranteed by the financial assurance to BLM or the designated state agency, which would then use the funds for reclamation, or (2) completing the reclamation themselves. The regulations also give BLM the authority to take steps, such as issuing

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<sup>8</sup>Before the 2001 regulations, notice-level operations did not have an expiration date. The 2001 regulations stated that all notices filed on or after January 20, 2001, would be extended only for 2 years, after which they would have to be renewed or would expire.

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noncompliance and suspension orders, and revoking plans of operation, if operators do not comply with the financial assurance or other regulatory requirements.

BLM established an automated information system—the Legacy Rehost 2000 (LR2000)—in 1999 that combined into one system several existing systems that collect and store information on the programs and land BLM manages. LR2000 is composed of a number of subsystems, some of which contain information on hardrock operations and financial assurances.

You asked us to determine the (1) types, amount, and coverage of financial assurances operators currently use to guarantee reclamation costs, (2) amount that financial assurance providers and others have paid to reclaim operations that had ceased and not been reclaimed since BLM began requiring financial assurances and the estimated costs of completing reclamation for such operations, and (3) reliability and sufficiency of BLM's LR2000 for managing financial assurances for hardrock operations.

We did not rely on LR2000 information to address these objectives, but instead designed two surveys to obtain information from BLM's state and field offices because they maintain the case files and other specific information on hardrock operations. We asked the 12 BLM state offices that manage BLM programs across the United States to complete surveys for each state in their jurisdiction with hardrock operations.<sup>9</sup> We verified the information in the surveys through discussions with BLM officials in two state and four field offices and by reviewing case files and other documents. In the first survey, which focused on states' experiences with hardrock operations, we asked these 12 offices to provide information on (1) the number of existing hardrock operations for each state within their jurisdiction,<sup>10</sup> (2) the types and the amounts of financial assurances provided for existing hardrock operations in each state, (3) their views on

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<sup>9</sup>Some of the 12 BLM state offices manage BLM programs in more than one state. For example, the BLM Montana state office manages BLM programs in Montana, North Dakota, and South Dakota, and the BLM Oregon state office manages BLM programs in Oregon and Washington.

<sup>10</sup>In our survey instructions, we defined existing operations to include those hardrock operations that (1) are pending BLM acceptance, (2) have been accepted but operations have not begun, (3) are ongoing, and (4) are temporarily inactive. While federal regulations require reclamation plans and cost estimates for all of these operations, they do not require financial assurances for those pending BLM acceptance or those that have been accepted but have not begun exploration or mining operations.

the effectiveness of the various types of financial assurances, (4) their views on the reliability and sufficiency of hardrock operation data contained in LR2000, and (5) their use of LR2000 for managing hardrock operations and financial assurances in their states. In the second survey, which focused on selected hardrock operations, we asked these 12 offices to provide detailed information on hardrock operations within their jurisdiction that met both of the following criteria: the operator (1) ceased operations after the requirement for financial assurances went into effect—August 1990 for plan-level operations, January 2001 for new notice-level operations, and January 2003 for existing notice-level operations and (2) failed to complete the required reclamation. We used information in this survey to determine the estimated reclamation costs and the adequacy of financial assurances for reclaiming each hardrock operation that BLM identified as meeting these criteria. We took steps to determine whether BLM officials identified all hardrock operations that met these criteria, such as comparing BLM's list of operations with operations identified by others. To the extent that BLM did not identify all hardrock operations that had ceased and not been reclaimed by the operator, the information it reported to us would be understated. In addition, we did not collect information on the thousands of ceased hardrock operations since 1872 that did not require financial assurances and therefore fell outside the scope of this review.

We also took steps to understand BLM's management and oversight of hardrock operations and the use of financial assurances to ensure reclamation. We reviewed BLM regulations, documents, and independent studies relevant to hardrock operations and financial assurances. We also discussed these issues with BLM officials at headquarters and in selected state and field offices. To understand the relationship between BLM and state agencies responsible for overseeing hardrock operations, we met with BLM state office and state agency officials in several states, and reviewed relevant memorandums of understanding and other agreements. To understand the reliability and sufficiency of LR2000, we spoke with BLM officials responsible for administering the system and staff in selected BLM state and field offices who enter information into the system and who use the system to manage hardrock operations and financial assurances. We also discussed relevant hardrock operation and financial assurance issues with experts and representatives from the mining industry, academia, and environmental groups. Finally, to better understand hardrock operations and reclamation requirements, we visited five mining operations in Nevada and Montana. Appendix I provides detailed information on our scope and methodology.

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We conducted our review from October 2003 through May 2005 in accordance with generally accepted government auditing standards, which included an assessment of data reliability.

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## Results in Brief

As of July 2004, hardrock operators were using 11 different types of financial assurances, valued at approximately \$837 million, to guarantee reclamation costs associated with approximately 2,500 existing hardrock operations on BLM land in 12 western states, according to our analysis of survey results. Surety bonds (\$384 million), letters of credit (\$238 million), and corporate guarantees (\$204 million) accounted for almost all of the \$837 million in financial assurances. However, these financial assurances may not fully cover all future reclamation costs for these existing hardrock operations if operators do not complete required reclamation. BLM reported that, as of July 2004, some existing hardrock operations do not have financial assurances, and some have no or outdated reclamation plans and/or cost estimates on which financial assurances should be based.

BLM identified 48 hardrock operations on its land that had ceased and not been reclaimed by operators since it began requiring financial assurances. BLM reported that the most recent cost estimates for reclamation required by applicable reclamation plans and federal regulations for 43 of the 48 operations totaled about \$136 million, with no adjustment for inflation; it did not report reclamation cost estimates for the other 5 operations. However, as of July 2004, the BLM-required financial assurances had provided or were guaranteeing \$69 million, and federal agencies and others had provided \$10.6 million to pay the estimated costs for required reclamation for the 48 operations, leaving \$56.4 million in unfunded reclamation costs. Financial assurances were not adequate to pay all estimated costs for required reclamation for 25 of the 48 ceased operations for several reasons. First, operators did not provide required financial assurances for 10 operations, despite BLM's efforts in some cases to make the operators provide them. Second, financial assurances that were provided were less than the most recent reclamation cost estimates for 13 operations. Third, financial assurance providers went bankrupt and did not have the funds to pay all reclamation costs for two other operations. In addition, cost estimates may be understated for about half of the remaining 23 operations because the cost estimates may not have been updated to reflect inflation or other factors that could increase reclamation costs. Furthermore, the \$136 million cost estimate is understated to the extent that BLM did not identify or report information in response to our survey on all hardrock operations that had ceased and not been reclaimed by

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operators, as required. For example, Oregon's BLM state office estimated that 20 notice-level operations in Washington state had ceased and not been reclaimed, but neither the Oregon BLM state office nor its field offices completed our surveys for these operations. Clearly, the \$136 million estimate would be higher if BLM's state or field offices had reported this information. Finally, according to BLM officials, required reclamation had been completed for only 5 of the 48 operations as of July 2004, but they believe it is likely that required reclamation will be completed on an additional 28 operations sometime in the future.

BLM's LR2000 is not reliable and sufficient for managing financial assurances that guarantee coverage of reclamation costs for BLM land disturbed by hardrock operations because staff do not always update information, and LR2000 is not currently designed to track certain critical information. Specifically, staff have not entered information on each hardrock operation and, for those hardrock operations included in LR2000, the information is not always current. Moreover, LR2000 does not track some information on hardrock operations and their associated financial assurances that we believe is critical for effectively managing financial assurances. This information includes the basic status of operations, such as whether they are ongoing or have ceased and should be reclaimed; some types of allowable financial assurances; and state- and county-held financial assurances. Given these limitations, it is not surprising that BLM's reliance on LR2000 to manage financial assurances is mixed. Specifically, BLM headquarters does not always rely on the system, and BLM state offices' reliance varies—in four states with hardrock operations, the state and field offices relied on the system to little or no extent; in eight states, to a moderate or some extent; and in one state, to a very great extent. In part to compensate for LR2000's limitations, some BLM state and field offices use informal record-keeping systems to help manage hardrock operations and financial assurances. BLM has taken some steps and identified others to improve LR2000 for managing financial assurances for hardrock operations.

To ensure that hardrock operators on BLM land have adequate financial assurances, we are making recommendations to the Secretary of the Interior to strengthen BLM's management of financial assurances for hardrock operations on its land by directing the Director of BLM to (1) require state office directors to develop an action plan for ensuring that operators have adequate financial assurances and (2) improve the reliability and sufficiency of BLM's automated information system.



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In responding to a draft of this report, Interior stated that it appreciated the advice and critical assessment we provided on BLM's management of financial assurances required for hardrock operations. However, without acknowledging or addressing specific deficiencies identified in our report, Interior disagreed with our recommendations, stating that guidance already issued ensured that proper management attention was being provided. In the face of considerable evidence in this report to the contrary, Interior's assertions that all is well and that recently issued policy and guidance ensure that adequate financial assurances are in place seems hard to comprehend. Accordingly, we continue to believe that our recommendations are warranted to ensure that adequate financial assurances are in place. Interior's letter and our comments are included in appendix IV.

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## Background

BLM is responsible for managing approximately 261 million acres of public land, over 99 percent of which is located in 12 western states, including Alaska. Approximately 90 percent of this land is open to the public for hardrock mineral exploration and mining. Less than one-tenth of 1 percent of BLM land is affected by existing hardrock operations. Figure 1 shows the BLM land available for hardrock operations.

**Figure 1: BLM-Managed Land**

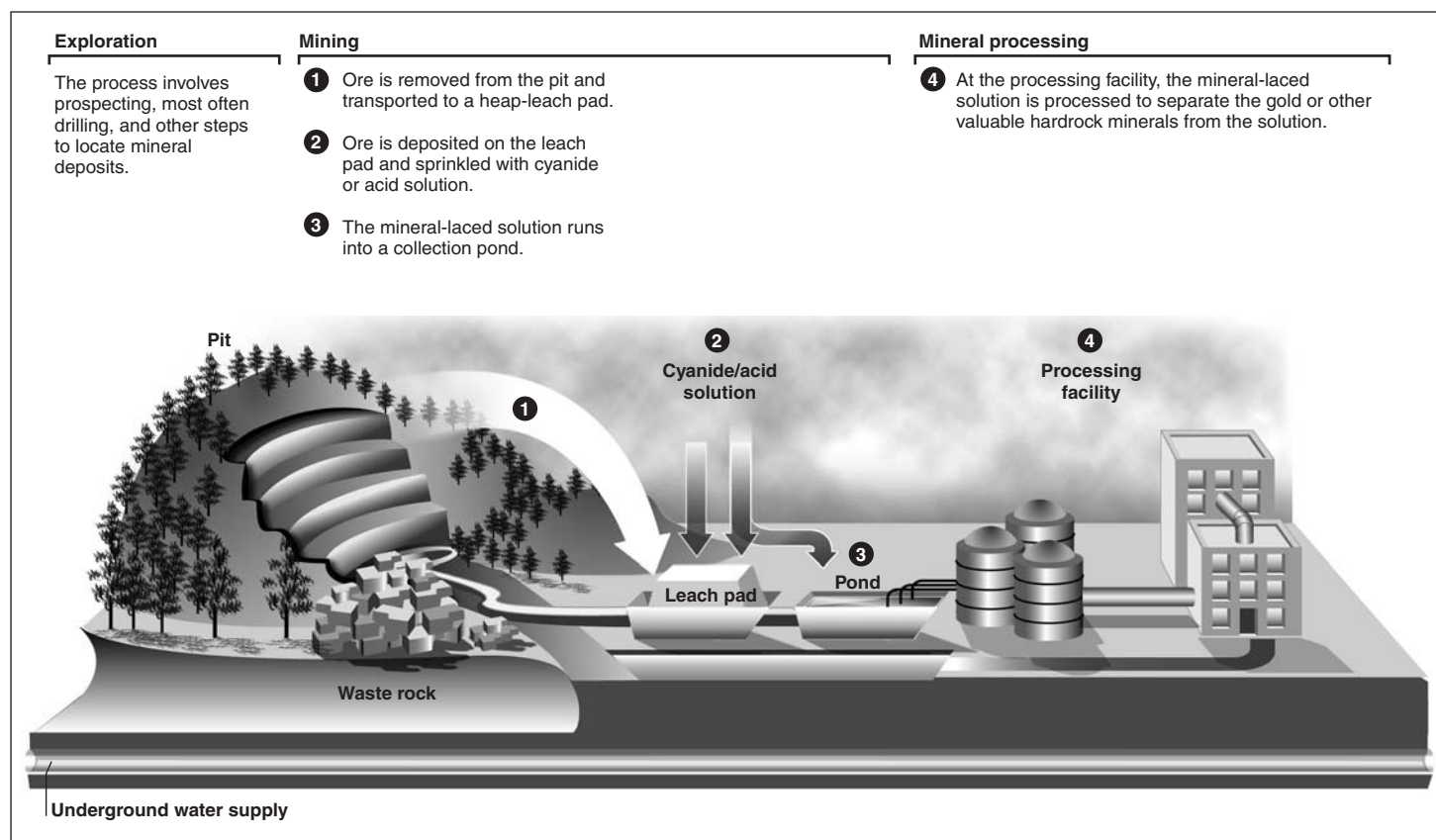
Source: BLM.

## How Hardrock Operations Work and the Importance of Reclamation

Hardrock operations consist of three primary stages—exploration, mining, and mineral processing. Operators are responsible for reclaiming the land disturbed by such operations at the earliest economically and technically feasible time, if this land will not be further disturbed. Exploration involves prospecting and other steps to locate mineral deposits. Drilling is the most common exploration tool for identifying the extent, quantity, and quality of

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minerals within an area. The mining phase includes developing the mining infrastructure (water, power, buildings, and roads) and extracting the minerals. Mineral extraction generally entails drilling, blasting, and hauling ore from pit areas to processing areas. To process minerals, operators prepare the ore by crushing or grinding it to extract minerals. The material left after the minerals are extracted—tailings (a combination of fluid and rock particles)—is then disposed of, often in a nearby pile. In addition, some operators use a leaching process to recover microscopic hardrock minerals from heaps of crushed ore by percolating solvent (such as cyanide for gold and sulfuric acid for copper) through the heap of ore. Through this heap-leaching process, the minerals adhere to the solvent as it runs through the leach heap and into a collection pond. The mineral-laced solution is then taken from the collection pond to the processing facility, where the valuable minerals are separated from the solution for further refinement. Figure 2 provides an overview of the three stages of a hardrock operation using a heap-leaching process.

**Figure 2: Overview of a Hardrock Operation Using a Heap-Leaching Process**

Source: GAO analysis of information provided by BLM, the National Research Council, and others.

At the earliest feasible time, operators are required to reclaim BLM land that will not be further disturbed to prevent or control on-site or off-site damage. Reclamation practices vary by type of operation and by applicable federal, state, and local requirements. However, reclamation generally involves resloping pit walls to minimize erosion, removing or stabilizing buildings and other structures to reduce safety risks, removing mining roads to prevent damage from future traffic, and capping and revegetating leach heaps, tailings, and waste rock piles to control erosion and minimize the potential for contamination of groundwater from acid rock drainage

and other potential water pollution problems.<sup>11</sup> Addressing potential water pollution problems may involve long-term monitoring and treatment. Reclamation costs for hardrock mining operations vary by type and size of operation. For example, the costs of plugging holes at an exploration site are usually minimal. Conversely, reclamation costs for large mining operations using leaching practices can be in the tens of millions of dollars.

## Laws and Regulations for Hardrock Operations

Hardrock operations on BLM land are regulated by federal and state laws. Under the General Mining Act of 1872 (Mining Act),<sup>12</sup> an individual or corporation can establish a claim to any hardrock mineral on public land.<sup>13</sup> Upon recording a mining claim with BLM, the claimant must pay an initial \$25 location fee and a \$100 maintenance fee annually per claim;<sup>14</sup> the claimant is not required to pay royalties on any hardrock minerals extracted. The Mining Act was designed to encourage the settlement and development of the West; it was not designed to regulate the associated environmental effects of mining. The number of hardrock operations left abandoned throughout the West after operations ceased is not known but is estimated to be in the hundreds of thousands, many of which pose environmental, health, and safety risks. Until Congress passed the Federal Land Policy and Management Act of 1976 (FLPMA),<sup>15</sup> development of hardrock minerals on public land remained largely unregulated. FLPMA

<sup>11</sup>Acid drainage occurs when water and oxygen contact rock with sulfides and sulfates and form acids that can be released into the environment.

<sup>12</sup>30 U.S.C. § 22.

<sup>13</sup>Under U.S. mining laws, minerals are classified as locatable, leasable, or saleable. Locatable minerals—often referred to as hardrock minerals—include, for example, copper, lead, zinc, magnesium, gold, silver, and uranium. Only hardrock minerals continue to be “claimed” under the Mining Act. Leasable minerals include, for example, oil, gas, and coal. The Mineral Leasing Act of 1920, 41 Stat. 437 (codified at 30 U.S.C. § 181) created a leasing system for coal, gas, oil and other fuels, and chemical minerals. Saleable minerals include, for example, common sand, stone, and gravel. In 1955, the Multiple Use Mining Act of 1955, 69 Stat. 367 (codified at 30 U.S.C. § 601) removed common varieties of sand, stone, and gravel from development under the Mining Act.

<sup>14</sup>The location and maintenance fees were reduced from \$30 and \$125, respectively, by the Consolidated Appropriations Act, 2005, and will not be reinstated until, among other things, BLM establishes a nationwide system to track the length of time between submission and approval of a hardrock plan of operation.

<sup>15</sup>Pub. L. No. 94-579 (1976) (codified at 43 U.S.C. § 1701).

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states that the Secretary of the Interior shall take any action necessary to prevent “unnecessary or undue degradation” of public land.<sup>16</sup>

Under FLPMA, BLM has developed and revised regulations and issued policies to prevent unnecessary or undue degradation of BLM land from hardrock operations. BLM issued regulations that took effect in 1981 on how these operations were to be conducted.<sup>17</sup> Named for their location in the *Code of Federal Regulations*, the “3809” regulations classify surface disturbance generated by hardrock operations into three categories: casual use, notice-level operations, and plan-level operations. For all three operation levels, the operator must prevent unnecessary and undue degradation and complete reclamation at the earliest feasible time. BLM issued the revised 3809 regulations, effective in part in January 2001 that, among other things, changed the definition of the types of operations, modified the reclamation requirements, and strengthened the financial assurance requirements. Table 1 describes each type of operation under both the old and new regulations.

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<sup>16</sup>In addition, hardrock mining operations on BLM land may be subject to a variety of federal environmental laws, such as the National Environmental Policy Act, the Endangered Species Act, and the Clean Water Act. States can also pass their own laws for regulating hardrock operations in their state, including operations on BLM land.

<sup>17</sup>BLM’s Surface Management Program for hardrock operations began in 1981 with the issuance of these regulations (43 C.F.R. 3809), which apply only to hardrock operations.

**Table 1: Description of Types of Hardrock Operations under 1981 and 2001 BLM Regulations**

Type of operation	Description under 1981 regulations	Description under 2001 regulations
Casual use	<ul style="list-style-type: none"> <li>Activities ordinarily resulting in only negligible disturbance of public land and resources</li> <li>Does not require the operator to notify BLM</li> </ul>	<ul style="list-style-type: none"> <li>Activities ordinarily resulting in no or negligible disturbance of public land or resources</li> <li>Does not require the operator to notify BLM</li> </ul>
Notice-level operation	<ul style="list-style-type: none"> <li>Any operation that causes a surface disturbance of 5 acres or less</li> <li>Operator must notify BLM 15 calendar days before commencing operations, but BLM does not approve the notice</li> </ul>	<ul style="list-style-type: none"> <li>Exploration operations that disturb 5 acres or less of public land</li> <li>Operator must notify BLM 15 calendar days in advance of causing surface disturbance, but BLM does not approve the notice</li> </ul>
Plan-level operation	<ul style="list-style-type: none"> <li>Any operation that disturbs more than 5 acres or any operation, other than casual use, in BLM special status areas, such as the national wild and scenic river system</li> <li>Plans of operations must be approved by BLM</li> </ul>	<ul style="list-style-type: none"> <li>Any operation greater than casual use, except for notice-level operations, and operations causing surface disturbance greater than casual use in special status areas, such as designated wilderness areas and national monuments</li> <li>Plans of operations must be approved by BLM<sup>a</sup></li> </ul>

Source: 1981 and 2001 federal regulations.

<sup>a</sup>Other plan-level operations include bulk sampling operations, in which 1,000 tons or more of presumed ore for testing will be removed.

While the performance standards for reclamation under the 1981 and 2001 regulations remain the same, the 2001 regulations specifically identified the components involved in reclamation. For standards under both regulations, the operator of a notice- or plan-level operation must reclaim the disturbed land at the earliest time that is economically and technically feasible, except to the extent necessary to preserve evidence of the presence of minerals, by taking reasonable measures to prevent or control on-site and off-site damage to federal land. Reclamation must include the following actions:

- saving topsoil to be applied after reshaping disturbed areas;
- taking measures to control erosion, landslides, and water runoff;
- taking measures to isolate, remove, or control toxic materials;
- reshaping the area disturbed, applying the topsoil, and revegetating disturbed areas, where reasonably practicable; and
- rehabilitating fisheries and wildlife habitat.

The 2001 regulations specified that, as applicable, reclamation components include:



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- isolating, controlling, or removing acid-forming and deleterious substances;
  - regrading and reshaping the disturbed land to conform with adjacent landforms, facilitating revegetation, controlling drainage, and minimizing erosion;
  - placing growth medium and establishing self-sustaining vegetation;
  - removing or stabilizing buildings, structures, or other support facilities;
  - plugging drill holes and closing underground workings; and
  - providing for post-mining monitoring, maintenance, or treatment.

The 2001 regulations also significantly strengthened the financial assurance requirements for hardrock mining operations. Under the 1981 regulations, BLM had the option of requiring an operator to obtain a bond or other financial assurances for plan-level hardrock operations and for notice-level operations where the operator had a record of noncompliance.<sup>18</sup> However, BLM rarely exercised this option.<sup>19</sup> In 1990, BLM instructed its officials to require operators of plan-level operations to provide (1) financial assurances of \$1,000 per acre for exploration and \$2,000 per acre for mining and (2) financial assurances for all estimated reclamation costs for operations that used leaching chemicals and for operators with a record of noncompliance. Under the 2001 regulations, BLM requires all notice- and plan-level hardrock operators to provide financial assurances that cover all estimated reclamation costs for all plan- and notice-level operations before exploration or mining operations begin. Casual-use operations do not have to provide financial assurances.

The 2001 regulations amended the types of financial assurances that can be used. The 1981 regulations identified three types of acceptable financial assurances—bonds, cash, and negotiable U.S. securities. BLM could also accept evidence of an existing bond pursuant to state law or regulations if BLM determined that the coverage would be equivalent to the amount that

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<sup>18</sup>For notice-level operations with a history of noncompliance, BLM had to first require the operator to file a plan of operation.

<sup>19</sup>[GAO/T-RCED-89-13](#).

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would be required by BLM. Some operations used corporate guarantees, which were allowable under state laws and regulations. In contrast, the 2001 regulations prohibit the use of corporate guarantees for new operations and state that corporate guarantees currently in use under an approved BLM and state agreement cannot be increased or transferred. The 2001 regulations specify the following types of financial assurances as acceptable:

- surety bonds that meet the requirements of U.S. Treasury Circular 570;<sup>20</sup>
- cash in an amount equal to the required dollar amount of the financial assurance and maintained in a federal depository account of the U.S. Treasury by BLM;
- irrevocable letters of credit from a bank or other financial institution organized or authorized to transact business in the United States;
- certificates of deposit or savings accounts not in excess of the Federal Deposit Insurance Corporation's maximum insurable amount;
- negotiable U.S., state, and municipal securities or bonds with a market value of at least the required dollar amount of the financial assurance maintained in a Securities Investors Protection Corporation insured trust account by a licensed securities brokerage firm for the benefit of the Secretary of the Interior;<sup>21</sup>
- investment-grade securities that (1) have a Standard and Poor's rating of AAA or AA, or an equivalent rating from another nationally recognized securities rating service, (2) have a market value of at least the required dollar amount of the financial assurance, and (3) are maintained in a Securities Investors Protection Corporation insured trust account by a licensed securities brokerage firm for the benefit of the Secretary of the Interior;

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<sup>20</sup>The Department of the Treasury reviews insurance companies to determine whether they qualify to underwrite insurance and annually publishes the list of qualified companies in Treasury Circular 570.

<sup>21</sup>The Securities Investors Protection Corporation is a nonprofit corporation created by Congress and funded by its member securities brokers and dealers to protect investors by returning cash, stock, and other securities if the brokerage firm goes bankrupt.

- certain types of insurance underwritten by a company having an A.M. Best rating of “superior” or an equivalent rating from another nationally recognized insurance rating service;
- evidence of an existing financial assurance under state law or regulations, as long as the financial assurance is held or approved by the state agency for the same operations covered by the notice or plan of operation, has a value equal to the required amount, and is redeemable by BLM. These financial assurances can include any of the above instruments. In addition, they can include state bond pools,<sup>22</sup> as well as corporate guarantees that existed on January 20, 2001, under an approved BLM and state agreement; or
- trust funds or other funding mechanisms available to BLM. The 2001 regulations require operators, when BLM identifies a need for it, to establish a trust fund or other funding mechanism to ensure continuation of long-term treatment to achieve water quality standards and for other long-term, post-mining maintenance requirements.

Finally, under the 2001 regulations, all notice- and plan-level operators must submit a reclamation plan and an associated cost estimate with its notice or plan of operation and any modifications or renewals. The financial assurance amount is based on the cost estimate. Furthermore, the associated cost estimate must reflect the cost to BLM as if the agency had to contract with a third party to complete reclamation. In addition, BLM issued guidance in February 2003, which was revised in March 2004, setting forth factors that should be considered in developing cost estimates. For example, estimates should include administrative and other indirect costs. The regulations require BLM to periodically review the estimates to determine if the estimate should be updated to reflect any necessary changes in the cost of reclaiming the operation.

## BLM’s Management and Oversight of Financial Assurances

BLM headquarters manages and oversees hardrock operations as well as its other programs, primarily through its headquarters, 12 state offices, and 157 field offices. Within headquarters, the Minerals, Realty, and Resource

<sup>22</sup>The state must agree that, upon BLM’s request, it will use part of the bond pool to meet reclamation obligations on public land. In addition, the BLM state office director must determine that the bond pool provides the equivalent level of protection as otherwise required.

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Protection group is responsible for administering the mining laws and establishing hardrock operations policies. This office is also responsible for evaluating the effectiveness of policy implementation at the state- and field-office levels. For example, in 2004, BLM conducted a survey of 18 of its 157 field offices to determine, among other things, whether operators had obtained financial assurances as required.

Each state office is headed by a state director who reports to the Director of BLM in headquarters. BLM state office delegations of responsibilities for financial assurances vary from state to state. For example, some state offices verify the authenticity of the financial assurance and confirm that financial assurances are payable to BLM. The state offices manage BLM programs and land in the geographic areas that generally conform to the boundary of one or more states. The state offices are Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Wyoming, and Eastern States. BLM has little land in the east and the Eastern state office is responsible for all of the states in the east. Figure 3 shows the boundaries of the 12 BLM state offices.

**Figure 3: The Boundaries of the 12 BLM State Offices**

The 157 BLM field offices, which are headed by field managers who report to the state directors, are responsible for implementing several BLM programs and policies, including many aspects of the hardrock mining program. The field offices maintain case files on each hardrock operation in their jurisdiction. Field office staffs are generally responsible for, among other things, (1) reviewing notices and plans of operations, along with associated reclamation plans and cost estimates; (2) determining the amount of financial assurances needed to pay reclamation costs; and (3) inspecting hardrock operations for compliance with regulations.

In addition, BLM has specialized centers, which are organizationally affiliated with headquarters, to carry out a variety of activities. One of these centers, near Denver, Colorado, administers BLM's LR2000, which is an automated information system used to collect and store information on BLM land and programs, including hardrock operations. LR2000 includes several subsystems that contain information on hardrock operations and the financial assurances provided by operators. Specifically, the Case Recordation System contains information on hardrock operations, such as the name and address of the operator; the location, type, and size of the operation; and inspection information. The other subsystem—the Bonding and Surety System—contains information on financial assurances, such as the types and amounts of financial assurances and the names of the providers. BLM state and field offices both enter data into LR2000 and thus are primarily responsible for the data's accuracy and completeness. In most instances, field offices are responsible for entering data about hardrock operations into the Case Recordation System, while BLM state offices are more often responsible for entering data about financial assurances into the Bonding and Surety System.

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## **BLM Identified 11 Types of Financial Assurances Valued at Approximately \$837 Million, but These Financial Assurances May Not Fully Cover Reclamation Costs**

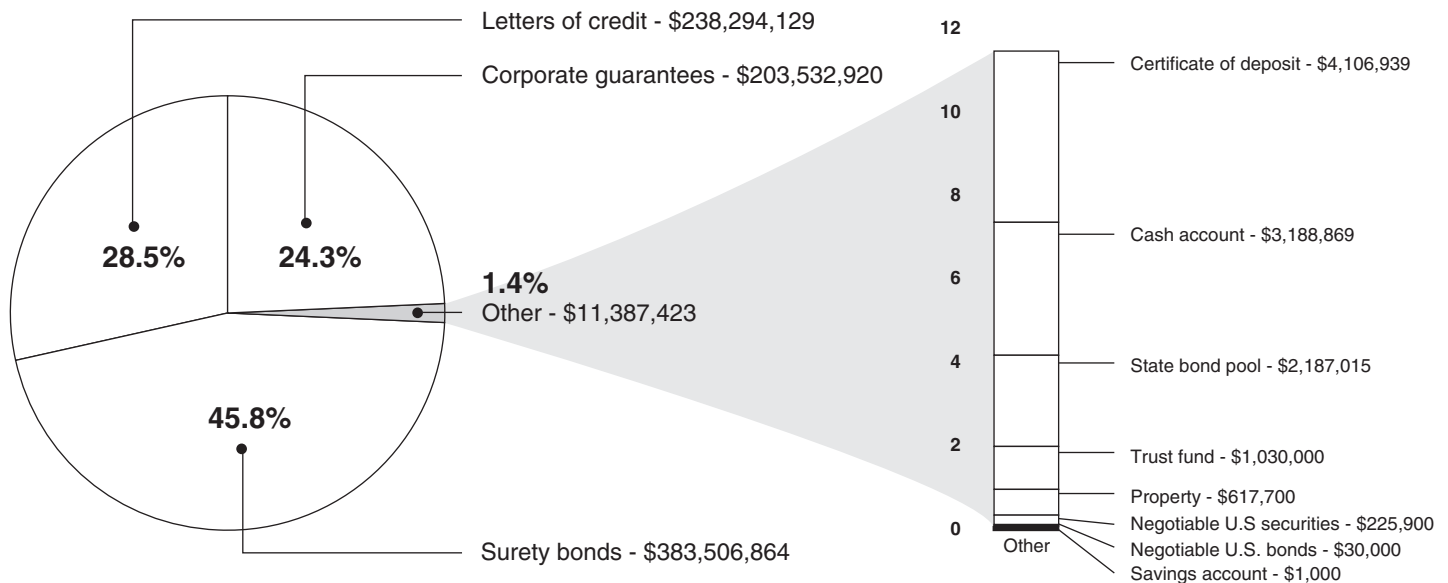
BLM reported that, as of July 2004, hardrock operators were using 11 types of financial assurances, valued at approximately \$837 million, to cover reclamation costs on BLM land in 12 western states. Surety bonds, letters of credit, and corporate guarantees accounted for almost 99 percent of this \$837 million. However, these financial assurances may not fully cover all future reclamation costs if operators fail to complete required reclamation. BLM reported that it had approximately 2,500 existing notice- and plan-level hardrock operations as of July 2004 and that some of these operations do not have financial assurances, and some have no or outdated reclamation plans and/or cost estimates on which financial assurances should be based. While BLM state office explanations indicated that financial assurances are not yet required for some operations, other

explanations indicated that some operations may not be complying with BLM's requirements.

### Surety Bonds, Letters of Credit, and Corporate Guarantees Are the Financial Assurances Currently Used to Cover Most of the Estimated Reclamation Costs

As of July 2004, operators were using 11 different types of financial assurances valued at approximately \$837 million to guarantee reclamation costs for BLM land disturbed by hardrock operations, according to our analysis of survey results. Almost 99 percent of the \$837 million in financial assurances is in the form of surety bonds, letters of credit, and corporate guarantees. Figure 4 shows the types of financial assurances used, their value, and the percentage of the total value accounted for by each type.

**Figure 4: Types of Financial Assurances Used, Value, and Percentage of Total Value**



Source: GAO analysis of BLM survey responses.

BLM reported that all of the current notice- and plan-level hardrock operations on BLM land—2,490 operations—are located in 12 western



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states.<sup>23</sup> Table 2 shows the states with existing hardrock operations and the types and amounts of financial assurances operators are currently using in each state.

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<sup>23</sup>BLM reported a total of 1,704 notice-level operations and 786 plan-level hardrock operations in these 12 states. The BLM Montana state office, which also has jurisdiction over North Dakota and South Dakota, reported that South Dakota has only two hardrock operations and that both have ceased operating and are being reclaimed by the operators. For this reason, South Dakota was not included as a state with existing hardrock operations.

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**Table 2: Type and Amount of Financial Assurances for 12 States with Existing Hardrock Operations, as of July 2004**

<b>State</b>	<b>Number of operations</b>	<b>Surety bonds</b>	<b>Letters of credit</b>	<b>Corporate guarantees</b>
Alaska	240	\$0	\$0	\$0
Arizona	185	3,802,763	571,907	0
California	303	3,986,000	737,000	0
Colorado	132	1,600,000	19,313	0
Idaho	55	242,340	305,050	0
Montana	180	103,831,894	3,996,803	0
New Mexico	35	3,307,406	921,293	0
Nevada	774	230,769,986	192,058,810	200,000,000
Oregon	175	34,000	0	0
Utah	216	1,719,343	365,699	122,000
Washington	139	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
Wyoming	56	34,213,132	39,318,254	3,410,920
<b>Total</b>	<b>2,490</b>	<b>\$383,506,864</b>	<b>\$238,294,129</b>	<b>\$203,532,920</b>

Certificates of deposit	Cash accounts	State bond pools	Trust funds	Property	Negotiable U.S. securities	Negotiable U.S. bonds	Savings accounts	Total
\$0	\$0	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$1,000,000
113,085	239,343	0	0	0	45,900	0	0	4,772,998
184,000	27,800	0	0	0	0	0	1,000	4,935,800
116,000	1,600	0	0	0	0	0	0	1,736,913
140,969	77,173	0	0	0	0	30,000	0	795,532
708,081	153,452	0	0	617,700	0	0	0	109,307,930
61,009	9,281	0	0	0	0	0	0	4,308,289
1,931,761	2,526,893	1,187,015	1,030,000	0	180,000	0	0	629,684,465
16,000	2,000	0	0	0	0	0	0	52,000
393,034	128,109	0	0	0	0	0	0	2,728,185
a	a	a	a	a	a	a	a	a
443,000	23,218	0	0	0	0	0	0	77,408,524
<b>\$4,106,939</b>	<b>\$3,188,869</b>	<b>\$2,187,015</b>	<b>\$1,030,000</b>	<b>\$617,700</b>	<b>\$225,900</b>	<b>\$30,000</b>	<b>\$1,000</b>	<b>\$836,721,336</b>

Source: GAO analysis of BLM survey responses.

<sup>a</sup>The BLM Oregon office did not provide information on the amount of financial assurances available to reclaim the existing hardrock operations it identified in Washington state on BLM land. The office reported no individual bonds are used for operations in Washington state, but that a statewide bond is held by the Washington state Department of Ecology.

The information below describes the types of financial assurances currently being used and BLM state offices' views of the effectiveness of these assurances in minimizing losses to the federal government if the operator does not complete reclamation.

***Surety bonds.*** Surety bonds are a third party guarantee that an operator purchases from an insurance company. As a third party with possible financial responsibility for reclamation, the insurance company has a strong incentive to monitor the operator's environmental safety record and efforts to fulfill reclamation obligations. If the operator does not complete required reclamation once operations cease, the insurance company has the option of performing the reclamation work or paying the financial assurance value to BLM or the designated state agency for reclamation. According to industry representatives and experts, insurance companies are amenable to issuing surety bonds for hardrock operations for predictable reclamation activities that will occur in a defined time frame. As table 2 shows, operators in 10 of the 12 states with hardrock operations

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are using surety bonds. In 7 of these 10 states, BLM state offices rated surety bonds as “effective” or “very effective” for minimizing losses to the federal government; in the other three states, BLM state offices reported that they had no experience (that is, they had not taken steps to obtain funds from the financial assurance provider) in using this type of assurance in minimizing losses to the federal government.<sup>24</sup>

*Letters of credit.* Letters of credit, which hardrock operators typically purchase from a bank or other financial institution, require the institution to pay BLM or the designated state agency the value of the letter of credit if the purchaser does not complete the required reclamation. Depending on the financial condition of the operator, the financial institution may require a deposit or collateral. Letters of credit are used in nine states with hardrock operations. In seven of these states, BLM state offices rated letters of credit as “moderately effective” or “very effective” in minimizing losses to the federal government; in the other two states, the BLM state offices reported that they had no experience in using this type of assurance in minimizing losses to the federal government.

*Corporate guarantees.* Corporate guarantees are promises by operators, sometimes accompanied by a test of financial stability, to pay reclamation costs, but do not require that funds be set aside to pay such costs. Although BLM prohibits new corporate guarantees in its 2001 regulations, 3 of the 12 states had existing corporate guarantees that were to cover almost one fourth of the total estimated reclamation costs, as of July 2004. Most of these corporate guarantees—\$200 million of the approximately \$204 million—are for operations in Nevada. The Nevada BLM state office rated corporate guarantees as “not effective” for minimizing losses to the federal government. Operators in Utah and Wyoming are also using corporate guarantees, although in relatively smaller amounts of \$122,000 and \$3.4 million, respectively. The Utah BLM state office reported that it has no experience in using this type of financial assurance to minimize losses to the federal government and therefore did not rate the effectiveness of this type of assurance. The Wyoming BLM state office rated corporate guarantees as a “very effective” financial assurance, although the office

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<sup>24</sup>We asked each of the 12 BLM state offices, for each state within their jurisdiction with hardrock operations, to rate the effectiveness of each type of financial assurance in minimizing losses to the federal government based on their experience. The rating categories were very effective, effective, moderately effective, somewhat effective, and not effective.

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reported it had no experience with an operation that had this type of financial assurance and failed to reclaim the land.

*State bond pools.* Operators in two states—Alaska and Nevada—use state bond pools to cover reclamation costs. According to Alaska BLM state office officials, all hardrock operators on BLM land in Alaska participate in the state bond pool.<sup>25</sup> Operators in the Alaska bond pool do not develop individual cost estimates for reclaiming the land disturbed by their operations. The bond pool, administered by the Alaska Department of Natural Resources, had \$1 million in reclamation funds as of July 2004.<sup>26</sup> According to Alaska BLM state office officials, if the bond pool funds are not sufficient to cover reclamation costs, the state of Alaska has agreed to cover any additional costs. The Alaska BLM state office rated the bond pool as “effective” in minimizing financial losses to the federal government. The office also reported that to date no requests or claims have been initiated to use bond pool funds for reclamation because either BLM has successfully negotiated with the operators to have the operations reclaimed, or the operations are pending further action.

The Nevada reclamation bond pool—which had about \$1.2 million as of July 2004—is open to operators on BLM or private lands. The state’s Division of Minerals administers this pool that was designed to help smaller operations that may have difficulty securing other forms of financial assurances. The Nevada bond pool does not establish the amount of the assurance required for each operation; this is typically done by BLM for operations on BLM land. The maximum bond amount for a participant is

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<sup>25</sup>The cost to an operator to participate in the Alaska state bond pool is calculated by multiplying the total number of acres to be disturbed by an operator by \$150.00. The \$150.00 includes a refundable reclamation deposit of \$112.50 per acre and an annual nonrefundable administrative fee of \$37.50 per acre. The fees for entry into the Alaska state bond pool were determined to be the average costs for reclamation per acre in the state for placer operations—those that involve extracting gold or other minerals from stream or beach sediment by gravity using water separation and typically do not use leaching chemicals. Operations using cyanide or other chemicals for leaching are not authorized to use the Alaska state bond pool and must secure another form of financial assurance.

<sup>26</sup>The Alaska bond pool covers all hardrock operations on federal, state, and private lands in the state.

\$3 million.<sup>27</sup> The Nevada BLM state office rated the state's bond pool as "very effective" in minimizing financial losses but noted that the pool had not been used as of our July 2004 survey. Subsequently, the office told us that the bond pool was used for the first time in late 2004, when BLM requested funds from the pool to reclaim a hardrock operation.

*Certificates of deposit and savings accounts.* Certificates of deposit and savings accounts can be used to guarantee reclamation costs but must not exceed the maximum amount insured by the Federal Deposit Insurance Corporation. Operators use certificates of deposit in 10 of the 12 states with hardrock operations. BLM state offices in 7 of these 10 states rated these assurances as "effective" or "very effective" in minimizing losses to the federal government. Another state office rated this type of assurances as "moderately effective" and noted that care must be given to ensure that BLM is the beneficiary of the certificate. In the other two states, the BLM state offices reported that they had no experience with this type of assurance in minimizing losses to the federal government. Operators in one state are using savings accounts, and the BLM rated savings accounts as "very effective" for minimizing losses to the federal government.

*Cash accounts.* Operators provide cash to BLM to guarantee reclamation costs, and BLM must deposit and maintain this cash in a federal depository account of the U.S. Treasury. Operators in 10 of the 12 states with hardrock operations use cash accounts. BLM state offices in 8 of these 10 states rated cash as "very effective" for minimizing losses to the federal government. In the other two states, the offices reported that they had no experience with using this type of assurance to minimize losses to the federal government.

*Trust funds.* The 2001 regulations require operators, when BLM identifies a need for it, to establish a trust fund or other funding mechanism to ensure the continuation of long-term treatment to achieve water quality standards and other long-term, post-mining requirements. Funds are placed in an interest-bearing trust account by an operator with BLM as the beneficiary.

<sup>27</sup>For bonds under \$10,000, the deposit is 100 percent of the bond amount, and the annual premium is 3 percent of the bond amount. For bonds of \$10,000 and greater, the deposit is 50 percent of the bond amount, escalating linearly to 80 percent at the cap; and the annual premium is 10 percent of the bond amount, declining linearly to 5 percent at the cap. Interest earned remains in the pool's account, and the deposit is returned to the operator when the bond is released following successful reclamation. Premiums are not returned to the operator.



The trust account should accrue sufficient funds to be sustained in perpetuity. The Nevada BLM state office reported one trust fund with just over \$1 million and said it did not have sufficient experience to determine the effectiveness of this type of assurance in minimizing losses to the federal government.

*Property.* The Montana BLM state office reported that one operator has used \$617,000 in property—consisting of 17 mining claims on private land owned by the operator—as a financial assurance. According to BLM state office officials, the operator pledged these properties as collateral. The Montana BLM state office reported that it had no experience using property to minimize losses to the federal government. We note that the revised federal regulations do not identify property as an acceptable type of financial assurance.

*Negotiable U.S. securities and bonds.* Operators in two states—Arizona and Nevada—use negotiable U.S. securities. The Arizona BLM state office reported it had no experience in using this type of assurance to minimize losses to the federal government. The Nevada BLM state office rated this type of assurance as “effective.” The Idaho BLM state office reported that operators in the state use U.S. bonds to guarantee reclamation costs and that the state has no experience using bonds to minimize losses to the federal government.

Although the \$837 million in financial assurances that BLM reported is the most complete information available, we note that this total may not include all financial assurances for hardrock operations on BLM land. Some BLM state offices had difficulty determining the value of financial assurances for hardrock operations in their jurisdictions when designated state agencies hold these assurances. For example, the state offices reported the following:

- *Washington.* The Oregon BLM office did not provide the value of financial assurances for the 139 hardrock operations it identified in Washington state.
- *California.* The information the California BLM office provided may not be complete because some financial assurances may be held by California’s 58 county agencies, and the state office did not contact each county agency to complete our survey.

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- *Montana.* The Montana BLM office does not track state-held financial assurances for hardrock operations on BLM land. BLM obtained information on these assurances for our survey from the state and reported that this information was not all inclusive but appeared to be reasonably accurate.

See appendix II for the number of notice- and plan-level hardrock operations and associated financial assurances for each state identified by BLM state offices, as of July 2004.

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### Existing Financial Assurances May Not Fully Cover Future Reclamation Costs

Existing financial assurances for reclaiming BLM land disturbed by hardrock operations may not fully cover future reclamation costs for the approximately 2,500 hardrock operations that BLM reported if operators do not complete required reclamation. The costs may not be fully covered because BLM reported that some of these operations do not have financial assurances, and some have no or outdated reclamation plans and/or cost estimates. BLM's explanations for this lack of coverage indicate that some operators may not be complying with BLM requirements.

As of July 2004, BLM state offices reported that some notice- or plan-level operations in 9 of the 12 states with existing hardrock operations did not have financial assurances. For example, BLM state offices reported that in five states (Arizona, California, Idaho, New Mexico, and Utah) more than 5 percent of both notice- and plan-level operations did not have financial assurances. All of the operations in two other states—Colorado and Wyoming—had financial assurances, and the Oregon BLM state office reported that all plan-level operations in Washington state had financial assurances, but the office did not know the percentage of notice-level hardrock operations without financial assurances in Washington state. Table 3 shows the number of notice- and plan-level hardrock operations and the percentage of these operations without financial assurances for each of the 12 states with existing hardrock operations.

**Table 3: Number of Notice- and Plan-Level Hardrock Operations and the Percentage of These Operations BLM Reported Had No Financial Assurances, by State, as of July 2004**

State	Number of notice-level hardrock operations	Percentage of notice-level hardrock operations without financial assurances	Number of plan-level hardrock operations	Percentage of plan-level hardrock operations without financial assurances
Alaska	134	1-4	106	0
Arizona	130	50-74	55	25-49
California	205	5-14	98	15-24
Colorado	102	0	30	0
Idaho	32	5-14	23	5-14
Montana	150	1-4	30	0
Nevada	450	0	324	1-4
New Mexico	24	15-24	11	15-24
Oregon	165	1-4	10	0
Utah	167	50-74	49	15-24
Washington	127	Do not know	12	0
Wyoming	18	0	38	0

Source: GAO analysis of BLM survey responses.

Note: Based on our analysis of survey responses, we identified the range of percentages of hardrock operations that did not have financial assurances in each of the states with hardrock operations. Those percentage ranges were 0, 1-4, 5-14, 15-24, 25-49, 50-74, 75-99, and 100 percent.

For the states in which BLM state offices indicated that less than 100 percent of their hardrock operations had financial assurances, we asked them to provide an explanation. While some of the explanations indicated that financial assurances are not yet required for some operations, such as those that are pending BLM acceptance or have not yet begun exploration or mining, others indicated that the operations may not be complying with BLM's requirements. The following explanations provided by BLM state offices for the lack of financial assurances suggest that some operators may not be complying with applicable financial assurance requirements.

- *Alaska.* The operator failed to submit state bond pool fees on time.
- *California.* Some older operations may not have financial assurances.

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- *Idaho*. The office could not find records of financial assurance for two plan-level operations.
  - *Nevada*. Some operations have been terminated by the state bond pool, operators have gone bankrupt, or operations have been abandoned and the operator cannot be found.

BLM state offices also reported that, as of July 2004, some hardrock operations on BLM land have no or outdated reclamation plans and/or reclamation cost estimates. Specifically, BLM state offices reported that some existing hardrock operations in 9 of the 12 states did not have reclamation plans and/or cost estimates. For example, BLM state offices reported that in three states (Arizona, California, and Utah) both types of operations (notice- and plan-level operations) were missing some reclamation plans and cost estimates. In addition, according to BLM state office officials, all hardrock operators on BLM land in Alaska currently participate in the Alaska bond pool and do not develop cost estimates. All of the operations in two other states—New Mexico and Wyoming—had both reclamation plans and cost estimates, and the Oregon BLM office reported that in Washington state all plan-level operations have reclamation plans and cost estimates, but it did not know the percentage of notice-level hardrock operations without plans and estimates. Table 4 shows the percentage of BLM’s notice- and plan-level hardrock operations without reclamation plans and cost estimates, as of July 2004.

**Table 4: Reported Percentage of Notice- and Plan-Level Hardrock Operations without Reclamation Plans and Cost Estimates, by State, as of July 2004**

State	Percent of operations without reclamation plans		Percent of operations without cost estimates	
	Notice-level	Plan-level	Notice-level	Plan-level
Alaska	1-4	0	100 <sup>a</sup>	100 <sup>a</sup>
Arizona	50-74	25-49	50-74	25-49
California	1-4	15-24	15-24	1-4
Colorado	5-14	0	0	0
Idaho	0	0	5-14	1-4
Montana	0	0	1-4	0
Nevada	0	0	0	1-4
New Mexico	0	0	0	0
Oregon	1-4	0	1-4	0
Utah	50-74	15-24	50-74	15-24
Washington	Do not know	0	Do not know	0
Wyoming	0	0	0	0

Source: GAO analysis of BLM survey responses.

Note: Based on our analysis of survey responses, we identified the ranges of the percentages of hardrock operations that did not have reclamation plans and cost estimates in each of the states with hardrock operations. Those ranges were 0, 1-4, 5-14, 15-24, 25-49, 50-74, 75-99, and 100 percent.

<sup>a</sup>All of the Alaska operations are covered by the Alaska state bond pool and do not develop cost estimates.

For the states in which BLM state offices reported that less than 100 percent of their operations had reclamation plans and/or cost estimates, we asked BLM to provide an explanation. All notice- and plan-level operations are required to have reclamation plans and cost estimates. The following explanations provided by BLM state offices for the lack of reclamation plans and/or cost estimates suggest that some operators may not be complying with financial assurance requirements.

- *Arizona.* Some of the older plan-level operations may still have financial assurances that were calculated on the basis of \$2,000 per acre, which was the policy under previous federal regulations, rather than all of the estimated costs of reclamation as the 2001 regulations now require.
- *Colorado.* No reclamation plan was required when some of the notices were submitted.

- *Idaho*. A record of a cost estimate for two plans could not be found.
- *Oregon*. Not all of the notice-level operations have a reclamation plan because of a general backlog in updating reclamation plans, and reclamation cost estimates are still being developed in a few cases.

In addition, three state offices reported that some reclamation plans and cost estimates had not been updated. For example, the California BLM state office reported that some of the older reclamation plans for operations in that state have not been updated because of a workload backlog and staff vacancies. Consequently, these plans and estimates may not provide a sound basis for establishing financial assurances to cover all future reclamation costs.

Like our survey results, the results of the 2004 BLM survey of 18 of its 157 field offices showed that some hardrock mining operations under the jurisdiction of 7 field offices did not have financial assurances that met BLM's requirements in fiscal year 2003. For example, one field office reported that it did not have financial assurances that met BLM's requirements because none of the reclamation cost estimates for plan-level operations included indirect costs. Another field office had a backlog of nearly 80 plan-level operations that had not had their reclamation cost estimates updated because, among other things, the office did not have sufficiently trained staff to review updates. In yet another field office, higher priority work prevented timely updates of some reclamation cost estimates.

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## Financial Assurances Were Not Always Adequate to Pay All Estimated Costs for Required Reclamation for Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators

BLM identified 48 hardrock operations on BLM land that had ceased and not been reclaimed by operators since it began requiring financial assurances. BLM reported that the most recent cost estimates for reclamation required by applicable plans and federal regulations for 43 of these operations totaled about \$136 million, with no adjustment for inflation; it did not report reclamation cost estimates for the other 5

operations.<sup>28</sup> However, as of July 2004, financial assurances had provided or were guaranteeing \$69 million, and federal agencies and others had provided \$10.6 million to pay estimated reclamation costs for the 48 operations, leaving \$56.4 million of reclamation costs unfunded. In particular, financial assurances were not adequate to pay all estimated costs for required reclamation for 25 of the 48 operations because (1) some operations had no assurances, (2) some operations' assurances were less than the most recent reclamation cost estimates, and (3) some financial assurance providers declared bankruptcy and could not pay. In addition, for about half of the remaining 23 operations, cost estimates may be understated because the cost estimates may not have been updated to reflect inflation or other factors that could increase reclamation costs. Furthermore, the \$136 million cost estimate is understated to the extent that BLM did not identify or report information on all hardrock operations that had ceased and not been reclaimed by operators as required. Finally, according to BLM officials, required reclamation had been completed for only 5 of the 48 operations as of July 2004, but they believe it is likely that required reclamation will be completed for 28 of the remaining 43 operations.

**BLM Identified 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators Since It Began Requiring Financial Assurances and About \$136 Million in Estimated Costs for Required Reclamation**

BLM identified 48 hardrock operations in seven states that had ceased and not been reclaimed by operators, as required by applicable reclamation plans and federal regulations, since it began requiring financial assurances.<sup>29</sup> The number of operations BLM identified in each of the seven states, along with the primary minerals explored, mined, and/or processed, and the operating authority for the 48 operations are shown in table 5. Appendix III, table 14, contains additional information about these operations.

<sup>28</sup>BLM reported estimates before and/or after operations ceased. (See app. III, table 17 for details.) We used the most recent complete cost estimate to determine total estimated costs. (See app. I for detailed methodology.)

<sup>29</sup>For the other six states with hardrock operations—Colorado, New Mexico, Oregon, South Dakota, Utah, and Wyoming—BLM reported that no operations had ceased and not been reclaimed by operators since it began requiring financial assurances.



**Table 5: Number and Selected Characteristics of 48 Hardrock Operations Reported by BLM as Ceased and Not Reclaimed by Operators Since BLM Began Requiring Financial Assurances, by State, as of July 2004**

States	Number of hardrock operations reported by BLM as ceased and not reclaimed by operators	Primary hardrock minerals being explored, mined, or processed			Authority	
		Gold	Other minerals	Unidentified	Plan-level	Notice-level
Alaska	4	4	0	0	4	0
Arizona	6	6	0	0	5	1
California	2	2	0	0	2	0
Idaho	1	0	1 <sup>a</sup>	0	1	0
Montana	3	3	0	0	2	1
Nevada	29	25	4 <sup>b</sup>	0	26	3
Washington	3	1	0	2	3	0
<b>Total</b>	<b>48</b>	<b>41</b>	<b>5</b>	<b>2</b>	<b>43</b>	<b>5</b>

Source: GAO analysis of BLM survey responses.

<sup>a</sup>The primary mineral explored and mined at this operation was limestone.

<sup>b</sup>The primary mineral was different for each of these four operations: one mined copper, another silver, and a third zinc; the fourth was a mill site for platinum/gold.

According to BLM officials in each of the seven states, BLM had taken steps to compel operators of most of the 48 operations to reclaim BLM land. For example, it had sent notices of noncompliance (24 operations) and taken administrative, legal, or other actions (19 other operations), such as revoking plans of operations. BLM took no action to compel reclamation of the remaining five operations. However, none of the operators for these 48 operations completed reclamation, primarily because of bankruptcy (30 operations). Appendix III, table 16, details the actions BLM took to compel operators to complete reclamation and the reasons reclamation was not completed.

BLM reported reclamation cost estimates for 43 of the 48 operations that had ceased and not been reclaimed by the operators; it did not report estimates for the other 5 operations—2 in Alaska, 2 in Nevada, and 1 in Arizona. The most recent estimates as of July 2004 indicated that the total

reclamation cost for the 43 operations was about \$136 million.<sup>30</sup> Almost 99 percent of this estimated cost was associated with operations in Montana and Nevada—primarily for the Zortman and Landusky mining operation in Montana (\$85 million) and the Paradise Peak operation (\$21.2 million) and MacArthur Mine operation (\$17 million) in Nevada. Clearly, the total cost estimate would be higher if the costs for the 5 operations with no estimates were included. The number of hardrock operations for which BLM reported cost estimates and the value of the most recent cost estimates, as of July 2004, for each of the seven states is shown in table 6. Appendix III, table 17, provides the reported estimates for each of the 43 operations.

**Table 6: Cost Estimates for Required Reclamation of 43 Hardrock Operations with Cost Estimates Reported by BLM as Ceased and Not Reclaimed by Operators Since BLM Began Requiring Financial Assurances, by State, as of July 2004**

<b>State</b>	<b>Number of hardrock operations with cost estimates</b>	<b>Most recent BLM-reported reclamation cost estimates</b>
Alaska	2	\$639,000
Arizona	5	944,439
California	2	17,431
Idaho	1	12,000
Montana	3	85,502,013
Nevada	27	48,840,972
Washington	3	33,825
<b>Total</b>	<b>43</b>	<b>\$135,989,680</b>

Source: GAO analysis of BLM survey responses.

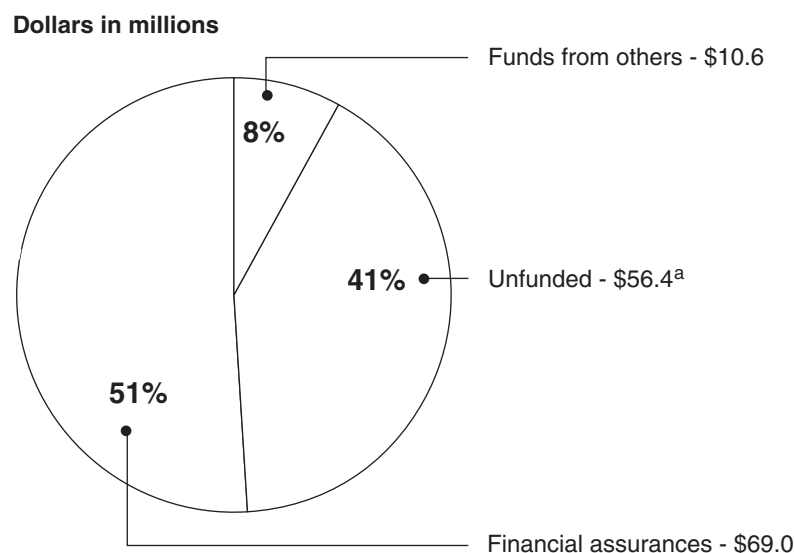
### Financial Assurances and Funds Provided by Others Were Not Adequate to Pay All of the Estimated \$136 Million in Costs for Required Reclamation

Financial assurances and funds provided by others were not adequate to pay all of the estimated \$136 million needed to complete the required reclamation of the 43 operations for which BLM reported cost estimates. Surety bonds and other types of financial assurances had provided or were guaranteeing \$69 million of the estimated costs for required reclamation that BLM reported for these operations, or about 51 percent. According to our analysis of information BLM officials provided in response to our survey, these funds were not adequate to pay all estimated costs for

<sup>30</sup>See appendix I for details on how the most recent cost estimates were identified.

required reclamation for 25 of the 48 operations. Moreover, cost estimates may be understated for 12 of the other 23 operations. In addition, funds provided by federal agencies and others paid only a fraction of the estimated reclamation costs. As a result, at least \$56.4 million, or about 41 percent, of the estimated \$136 million needed for required reclamation was unfunded, as shown in figure 5. Finally, the \$136 million cost estimate for required reclamation is understated to the extent that BLM did not identify or report information on all hardrock operations that had ceased and not been reclaimed, as required.

**Figure 5: Sources and Amount of Funds Provided or Guaranteed to Pay Estimated \$136 Million in Costs for Required Reclamation for Operations that BLM Identified as Ceased and Not Reclaimed by Operators Since BLM Began Requiring Financial Assurances, as of July 2004**



Source: GAO analysis of BLM survey responses.

<sup>a</sup>The \$56.4 million of unfunded costs includes \$4,233,465 in corporate guarantees that lost their value when the operator that guaranteed reclamation costs went bankrupt and had no funds to pay reclamation costs and \$949,350 that was not relinquished by a financially-troubled surety bond provider. When the \$56.4 million in unfunded costs is added to the \$10.6 million from others, a total of \$67 million, or about 49 percent of the total estimated cost, was not guaranteed by financial assurances.

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Types of Financial Assurances  
Varied but Were Not Adequate to  
Pay About Half of the Estimated  
Costs Needed for Required  
Reclamation

Operators used a variety of types of financial assurances for 38 operations to pay or guarantee coverage of \$74.2 million of the \$136 million of estimated costs for required reclamation, as table 7 shows. (The remaining 10 operations had no financial assurances.) Operators used surety bonds, a trust fund, and corporate guarantees to guarantee almost 97 percent of these costs, with the rest guaranteed by state bond pools, letters of credit, certificates of deposit, cash, and a construction bond provided by an operator. However, as of July 2004, financial assurances had provided or were guaranteeing only \$69 million, or almost 51 percent, of the reclamation costs. This amount decreased because \$4.2 million in corporate guarantees had lost all their value when the operator that guaranteed the reclamation costs declared bankruptcy and had no funds to pay such costs, and \$949,350 was not available from a surety bond because the financially-troubled financial assurance provider paid for reclamation instead of relinquishing the bond. See appendix III, table 18, for the types of financial assurances used for each hardrock operation.

**Table 7: Type and Value of Financial Assurances Used by Operators to Guarantee Reclamation Costs for 38 Operations with Financial Assurances that BLM Identified as Ceased and Not Reclaimed by Operators Since BLM Began Requiring Financial Assurances, as of July 2004**

Type of financial assurance	Number of operations with financial assurances <sup>a</sup>	Value of financial assurances
Surety bonds <sup>b</sup>	22	\$55,294,010
Trust funds	1	12,300,000
Corporate guarantees <sup>c</sup>	3	4,233,465
Operator's construction bond	1	2,000,000
State bond pools <sup>d</sup>	8	340,573
Letters of credit	2	18,500
Certificates of deposit	3	17,431
Cash	3	7,076
<b>Total<sup>e</sup></b>	<b>38<sup>e</sup></b>	<b>\$74,211,046</b>
Less financial assurances with no value	b,c	(\$5,182,815)
<b>Total</b>	<b>38<sup>e</sup></b>	<b>\$69,028,231</b>

Source: GAO analysis of BLM survey responses.

<sup>a</sup>Ten of the 48 operations had no financial assurances.

<sup>b</sup>As of July 2004, one security provider had financial problems and contracted for reclamation instead of relinquishing bond funds.

<sup>c</sup>As of July 2004, these three corporate guarantees had lost all their value because the operator that guaranteed the reclamation costs had gone bankrupt and had no funds to pay reclamation costs. However, these operations also had surety bonds that maintained their value.

<sup>d</sup>This is the value for six of the eight hardrock operations; BLM did not provide the value for the other two operations.

<sup>e</sup>Does not add because some operations had more than one type of financial assurance.

These 38 financial assurances provided or guaranteed funds for only about half of the estimated costs for required reclamation for the 48 hardrock operations. Specifically, these financial assurances were not adequate for 25 of the 48 operations because (1) operators did not provide financial assurances for 10 hardrock operations, (2) the financial assurances that were provided were less than the most recent cost estimates for 13 operations, and/or (3) the financial assurance providers declared bankruptcy and did not have the funds to pay all reclamation costs for two other operations. (Also, 2 of the 13 operations whose financial assurances were less than the most recent cost estimates went bankrupt.) Table 8 shows the reasons financial assurances were not adequate and the

associated funding differential. Table 8 also shows that most of the difference between the value of the estimated reclamation costs and the value of the financial assurances occurred because the financial assurances were less than the most recent cost estimate.

**Table 8: Reasons Financial Assurances Were Not Adequate to Pay Estimated Costs for Required Reclamation for 25 Hardrock Operations Identified by BLM as Ceased and Not Reclaimed by Operators Since BLM Began Requiring Financial Assurances, as of July 2004**

Reason for inadequate financial assurances	Number of affected hardrock operations	Value of estimated reclamation costs	Value of financial assurances	Funding differential
Operations had no financial assurances	10 <sup>a</sup>	\$2,001,014	\$0	(\$2,001,014)
Financial assurances less than most recent cost estimates	13	128,187,236	64,445,305	(63,741,931)
Bankrupt financial assurance providers	4 <sup>b</sup>	1,688,006	2,638,017	950,011
<b>Subtotal</b>	<b>25<sup>c</sup></b>	<b>\$131,876,256</b>	<b>\$67,083,322</b>	<b>(\$64,792,934)</b>
Less financial assurances with no value	<sup>d</sup>		(5,182,815)	(5,182,815)
<b>Total</b>	<b>25</b>	<b>\$131,876,256</b>	<b>\$61,900,507</b>	<b>(\$69,975,749)</b>

Source: GAO analysis of BLM survey responses.

<sup>a</sup>Includes one operation with no reported cost estimate.

<sup>b</sup>Four operations were affected by bankrupt financial assurances providers. The \$1.7 million and \$2.6 million are the values for estimated reclamation costs and associated financial assurances, respectively, for two of these operations—County Line and Olinghouse. For the other two operations—the MacArthur Mine and the Paradise Peak operations—the values for the estimated reclamation costs (\$38.2 million) and the associated financial assurances (\$4.8 million) are included with the 13 operations for which financial assurances were less than the most recent cost estimates.

<sup>c</sup>Does not add because two of these operations also had financial assurances that were less than the most recent cost estimate.

<sup>d</sup>As of July 2004, three of the four operations affected by bankruptcy used corporate guarantees that had lost all their value because the operator that guaranteed the reclamation costs was bankrupt and one surety bond provider did not relinquish bond funds because the provider went bankrupt.

## No Financial Assurances

As table 8 shows, 10 hardrock operations had no financial assurances. These operations were located in Washington (2), Arizona (4), and Nevada (4). The most recent reclamation cost estimates for 9 of these 10 operations indicated that slightly over \$2 million in reclamation costs was unfunded; BLM reported no cost estimate for the other operation. BLM officials provided the following explanations for why the 10 operations did not have the required financial assurances:

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- *Two operations in Washington.* An official in Oregon's BLM state office, which manages BLM programs in Oregon and Washington, said that two operations in Washington did not have financial assurances, probably because the responsible BLM field office did not have adequate staff to enforce compliance with this requirement. The official also said that financial assurance training had been a problem and that staff turnover in one field office meant that financial assurances were overlooked for a period of time.
  - *Four operations in Arizona.* According to BLM state office officials, the operators of two operations did not provide financial assurances, even though BLM told them that financial assurances were required. According to an official in the BLM state office, the heavy workloads associated with other BLM programs dissuaded staff from taking enforcement actions that could involve time-consuming activities, such as obtaining court orders. Furthermore, the official said that case files indicated the third operation had financial assurances sometime during the 1990s, but information on the type and amount of financial assurances after it ceased could not be found. No reason was given for the fourth operation.
  - *Four operations in Nevada.* According to BLM state office officials, operators of three operations did not provide financial assurances, even though BLM notified the operators that financial assurances were required. At one of these operations, for example, BLM's field office issued a noncompliance order that, after the operator appealed it, was upheld by the BLM state office. BLM is currently working with the state of Nevada to reclaim this operation. BLM state office officials said that the operator of another operation, who eventually went bankrupt, was never able to provide a suitable financial assurance instrument. Regarding the fourth operation—Relief Canyon—officials in BLM's responsible field office told us that the operator refused to provide financial assurances despite the field office's enforcement steps. The field office issued a noncompliance order and took other enforcement actions, such as revoking the operator's plan of operation.

The Relief Canyon gold mine is located in north-central Nevada on about 344 acres, including 295 acres of BLM land. According to BLM officials, the mine was being reclaimed when a new operator purchased it in 1995 and, at that time, the agency advised the new operator of the need for financial assurances for all required reclamation—including past and future disturbances. However, the operator never obtained the



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financial assurances. According to BLM, the mine's plan of operation was last updated in October 1996, and before the operation ceased, the operator estimated reclamation costs at about \$889,000. BLM reported that, as of July 2004, 26 to 50 percent of the operation had been reclaimed. BLM officials told us that they had revoked the mine's plan of operation, operations had ceased, and the operator should complete reclamation, but the operator has appealed this revocation to Interior's Board of Land Appeals. The operator contends that he plans to either begin mining operations when he gets the funds or sell the operation. When we visited the operation in September 2004, we did not see any signs of ongoing mining activity and observed that buildings, collection pond liners, the security fence, and other structural facilities needed repair. As of June 2005, BLM was awaiting the board's decision.

#### Financial Assurances Were Less Than Recent Cost Estimates

As table 8 also shows, 13 operations had financial assurances that were less than the most recent cost estimates. These operations were located in Alaska (1), California (1), Montana (1), and Nevada (10). The most recent cost estimate for these 13 operations was \$128.19 million, and the value of the associated financial assurances was \$64.45 million, leaving \$63.74 million of the estimated reclamation costs with no financial assurance coverage. Table 9 shows the most recent cost estimates, compared with the value of financial assurances for each of the 13 operations. Three mining operations—Zortman and Landusky, MacArthur Mine and Paradise Peak—accounted for about 95 percent of the amount that the cost estimates exceeded the financial assurances.

**Table 9: Comparison of Most Recent Cost Estimate as of July 2004 with the Value of Financial Assurances for 13 Hardrock Operations with Cost Estimates That Exceeded Financial Assurances**

Hardrock operation	Location	Most recent cost estimate	Value of financial assurances	Amount cost estimate exceeded financial assurance
Gold Hill Mining	Alaska	\$500,000	\$15,000	\$485,000
Nina	California	15,000	5,000	10,000
Zortman and Landusky Mine	Montana	85,200,000	57,800,000	27,400,000
Wildhorse Canyon	Nevada	53,000	12,000	41,000
South Hy/Isabella	Nevada	169,700	22,000	147,700
Golden Butte	Nevada	1,397,000	328,942	1,068,058
Easy Jr	Nevada	668,936	365,917	303,019
Kinsley	Nevada	1,400,000	911,763	488,237
Phoenix Metals USA II Inc.	Nevada	100,000	45,904	54,096
American Canyon KOF	Nevada	21,600	5,314	16,286
16:1 Millsite	Nevada	458,000	124,017	333,983
MacArthur Mine <sup>a</sup>	Nevada	17,047,000	184,300	16,862,700
Paradise Peak <sup>a</sup>	Nevada	21,157,000	4,625,148	16,531,852
<b>Total</b>		<b>\$128,187,236</b>	<b>\$64,445,305</b>	<b>\$63,741,931</b>

Source: GAO analysis of BLM survey responses.

<sup>a</sup>Part of these financial assurances were corporate guarantees that lost their value when the operator that guaranteed reclamation costs went bankrupt.

For these 13 hardrock operations, we identified several reasons why financial assurances were less than the most recent reclamation cost estimate. In particular:

- *Estimates at the time operations ceased for 6 of the 13 operations did not consider all costs.* BLM reported that some estimates excluded BLM administrative or indirect costs, interim maintenance costs, long-term maintenance and monitoring costs, costs for inflation, and/or other costs. For example, estimates for five operations did not include sufficient funds to cover BLM administrative or indirect costs, which can be high, especially if BLM gets involved with bankruptcy procedures. In its guidance on preparing cost estimates BLM states that estimates should include (1) costs for contract administration, which should be between 6 and 10 percent of estimated operations and maintenance costs, depending on the size of the operation, and (2)

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indirect costs, which should be 21 percent of the contract administration costs.

- *One operator intentionally understated reclamation costs for an operation to minimize the amount of financial assurances required, according to BLM field office officials in Nevada. They said, for example, that the operator calculated the estimate as if very large equipment were going to be used, which would reduce costs; however, the operator did not have such equipment available in the state. The field office officials said that the BLM staff who reviewed the cost estimate were inexperienced and did not detect the understatement.*
- *Reclamation plans and cost estimates sometimes were not updated to reflect all reclamation costs when the scope of the plan of operations changed and, as a result, the reclamation requirements changed. For example, BLM reported that the amount of financial assurances for the Zortman and Landusky mining operation in Montana was significantly less than the cost estimate prepared after the operations ceased. The difference in costs was due in part to the failure to update the reclamation plan to address acid rock drainage found during an inspection in the early 1990s, despite efforts by the operator to update the plan. Specifically, the most recent cost estimate for water treatment is greater than the estimate prepared before operations ceased. In addition, the cost estimate increased because the revised reclamation plan required more extensive work on the heap-leach pad than in the earlier plan. Approval of the plan was delayed until 2002 by the review process and litigation over the effects of the proposed changes, and by that time the operator had declared bankruptcy.*

According to the Montana Department of Environmental Quality, which jointly manages the hardrock operation with BLM, the value of the financial assurances increased during this period. However, the most recent reclamation cost estimate was still greater than the associated financial assurances. An estimate of \$85.2 million for reclamation costs was prepared after operations ceased and addressed water contamination and other reclamation activities, such as backfilling, regrading, and revegetating. This estimate included \$36.3 million for earthworks, \$22 million for water treatment through 2017, and \$26.9 million for long-term water monitoring and treatment, according to BLM field office officials. This estimate was \$27.4 million more than the \$57.8 million in financial assurances provided for the reclamation. The financial assurances consisted of \$29.6 million in surety bonds for

earthworks, a \$2 million construction assurance bond for water treatment facilities, \$13.9 million in surety bonds for water treatment through 2017, and \$12.3 million in a trust fund for long-term water treatment and monitoring. Part of the funding shortfall—about \$8.7 million—was covered with funds from other sources.

#### Financial Assurance Providers Declared Bankruptcy

For four operations in Nevada, as table 8 shows, financial assurances were not adequate because financial assurance providers went bankrupt and could not pay all the reclamation costs they guaranteed. For three of these operations—Paradise Peak, County Line, and MacArthur Mine—an operator used corporate guarantees totaling \$4.2 million to guarantee part of the estimated reclamation costs. However, these corporate guarantees lost all their value when the operator went bankrupt. Reclamation costs for the fourth operation were guaranteed with a surety bond underwritten by a company that went bankrupt and spent \$850,650 for partial reclamation of the operation instead of relinquishing the \$1.8 million surety bond. In particular:

- Paradise Peak, a mining operation in central Nevada, used heap leaching to extract gold from ore. When the operation ceased, it covered almost 1,000 acres, about half of which was on BLM land. The plan of operation was last updated in May 1996, and in November 1995, the operator estimated that reclamation costs would be \$5,462,000. The operator, Arimetco Inc., provided financial assurances totaling \$4,625,000—\$1,157,000 in a surety bond and \$3,468,000 in a corporate guarantee that lost all of its value when Arimetco went bankrupt. As of July 2004, the surety bond company had relinquished the \$1,157,000, but none of the funds had been spent. BLM reported that estimated reclamation costs were \$21,157,000—\$20 million more than the funds the surety bond company relinquished. This estimated cost is significantly more than the original estimate, according to BLM state office officials, because the original estimate did not include all costs that it should have, such as costs for reclaiming collection ponds, and because the cost estimate was not updated to reflect changes in the reclamation plan. BLM reported that no reclamation had been done as of July 2004, but it was very likely that reclamation would be completed because a portion of the needed funding was obtained through bankruptcy procedures and BLM was working with the operator to perform reclamation.
- County Line Project, located on 130 acres of BLM land in western Nevada, used heap leaching to extract gold from ore. The plan of operation was last updated in January 1992, when the operator

estimated that reclamation costs would be about \$837,000. BLM reported no more recent reclamation cost estimates. Arimetco Inc., the operator, provided \$838,000 in financial assurances—\$210,000 in surety bonds and \$628,000 in a corporate guarantee that lost all of its value after Arimetco went bankrupt. As of July 2004, the surety bond company had relinquished the \$210,000, but none of the funds had been spent.<sup>31</sup> BLM reported that, as of July 2004, between 26 percent and 50 percent of the operation had been reclaimed. BLM also reported that it was very unlikely that reclamation would ever be completed because it was unlikely that the operator would remain viable after bankruptcy.<sup>32</sup>

- The MacArthur Mine covers about 550 acres, over three-quarters of which are on BLM land. The MacArthur Mine was purchased by Arimetco in 1988. This copper mine consisted of a pit, waste dump, and roads used to haul ore from the pit to three heap-leach pads that Arimetco constructed on the nearby Yerington Mine, which was also on BLM land, to extract copper from the MacArthur ore.<sup>33</sup> BLM reported that Arimetco began operating the MacArthur Mine in 1992 and ceased operations in 1997, after it filed for bankruptcy. BLM also reported that the plan of operation was last updated in 1995 and that Arimetco had no reclamation cost estimate before operations ceased. Further, BLM provided documents that showed the MacArthur reclamation plan covered not only the MacArthur land but also the heap-leach pads at the Yerington Mine. Although Arimetco had no cost estimate, it did have \$184,300 in financial assurances—\$47,000 in a surety bond and \$137,300 in a corporate guarantee that had lost all of its value when Arimetco went bankrupt. BLM reported that, as of July 2004, the \$47,000 in surety bond funds had been relinquished but not spent. BLM also reported that estimated reclamation costs would be \$17,047,000—\$17 million more than the funds relinquished by the surety bond company. This estimate, according to an official in a BLM Nevada field office, was prepared by

<sup>31</sup>BLM officials told us in February 2005 that, as of December 2004, some of the surety bond funds had been obligated to review and determine reclamation designs and costs.

<sup>32</sup>BLM officials told us in February 2005 that, as of December 2004, about 75 percent of the reclamation had been completed and that the heap-leach pad and process ponds were the remaining features to be reclaimed.

<sup>33</sup>The Yerington Mine, which is on BLM and private land, was mined by the Anaconda Copper Company from 1953 to 1978 (before BLM required reclamation or financial assurances) and was purchased by the Atlantic Richfield Company in 1977 and sold to a private entrepreneur in 1978. The entrepreneur sold the Yerington land to Arimetco in 1988.

the state of Nevada for bankruptcy procedures. BLM reported that, as of July 2004, no reclamation of the MacArthur operation had been undertaken or completed and that it was very unlikely reclamation of this operation would occur. However, in March 2005, the BLM official told us that the Yerington Mine, including the leach heaps built and used by Arimetco for the MacArthur operation, would be cleaned up under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA).<sup>34</sup> CERCLA governs cleanup of severely contaminated hazardous waste sites.<sup>35</sup>

- The Olinghouse Mine operation, a exploration and mining operation in northwest Nevada, used heap leaching to extract gold from ore on 502 acres, of which 447 acres were BLM land. The plan of operation was last updated in September 2002, and the operator estimated that reclamation costs would be about \$851,000. BLM has not reported any more recent cost estimates. Alta Gold Company, the operator of the Olinghouse operation and eight other hardrock operations in Nevada, provided financial assurances to guarantee reclamation of all nine operations through a statewide surety bond underwritten by the Frontier Insurance Company (Frontier). In April 1999, Alta Gold Company filed for bankruptcy, and BLM gave Frontier the option of paying or performing reclamation. Subsequently, the insurance company filed for bankruptcy and was put into “rehabilitation”—a term for bankruptcy with the intent of making the company solvent. In October 2001, Frontier offered to reclaim the operation to a “satisfactory level.” According to BLM, its options were to (1) wait upon the bankruptcy court, with no guarantee to obtain funds or (2) find an alternative solution to reclaim most of the land. BLM entered into an agreement with Frontier for it to perform reclamation using contractors, with BLM oversight. Frontier completed the agreed-upon reclamation by February 2003, and in December 2003, BLM released the company from future financial obligations for this operation. Frontier performed the reclamation for \$850,650, which was significantly less than the \$1.8 million surety bond that it would have

<sup>34</sup>42 U.S.C. §§ 9601-9675.

<sup>35</sup>BLM officials advised us that their most recent reclamation cost estimates for the MacArthur Mine pit and waste piles was \$350,000 and for the haul road was \$1.15 million. They also said that, assuming the estimate for the bankruptcy court was correct, over \$15.5 million of the cleanup costs for the leach heaps on the Yerington Mine used to extract copper from the MacArthur pit will be included in the CERCLA cleanup costs. The officials said that the total reclamation costs for the Yerington Mine had not yet been estimated.

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relinquished if Frontier had not performed the reclamation. BLM state and field office officials told us that this solution was satisfactory to all parties, even though all reclamation required by the reclamation plan was not completed. BLM reported that, as of July 2004, 86 to 95 percent of the reclamation had been completed, but it was very unlikely that the remaining reclamation would ever be completed. For example, BLM reported that all exploration roads were not reclaimed.

**Financial Assurances for 12  
Hardrock Operations May Not  
Be Adequate to Pay All Costs for  
Required Reclamation**

Financial assurances may not be adequate to pay all costs for required reclamation for 12 of the other 23 operations—11 for operations where financial assurances were equal to the associated cost estimates and 1 where the financial assurance was greater than associated cost estimate.<sup>36</sup> The financial assurances may not be adequate because the cost estimates on which they were based were prepared before operations ceased—in some cases, as long as a decade ago—and likely do not reflect inflation or other factors that would cause reclamation costs to increase. Table 10 shows the value of the cost estimate prepared before the operations ceased and the number of months elapsed between that time and July 2004, when our surveys were completed.

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<sup>36</sup>Of the remaining 11 operations, 3 had been reclaimed, 4 had no basis to assess the adequacy of the cost estimates because BLM reported no estimates, and the most recent cost estimates for 4 were prepared after operations ceased.



**Table 10: Value of Cost Estimate Prepared before Hardrock Operations Ceased and the Number of Months Elapsed between Estimate Date and July 2004 for 12 Hardrock Operations Where Financial Assurances Were Equal to or Greater than Cost Estimate**

Operation	Value of cost estimate prepared before hardrock operations ceased	Date of cost estimate	Number of months elapsed between cost estimate and July 2004
Pan Project	\$5,670	Feb. 1993	137
Monte Exploration	7,395	April 1993	135
Ward Mine	141,500	Mar. 1993	136
Northern Crown Mines	3,897	Dec. 1991	151
Phil Claims Expl Proj	28,556	Oct. 1995	105
Diamond Peak Prospect Mtn	6,500	May 2001	38
Eldorado Pediment	8,200	Oct. 2001	33
Elder Creek	256,062	Feb. 1996	101
Gold Bar Resource Area	303,300	Dec. 1994	115
Gold Bar Mine	2,608,000	Oct. 1994	117
Atlas Exploration <sup>a</sup>	265,000 <sup>a</sup>	June 1994	121
Snowbound Placer	\$2,970	June 2003	13

Source: GAO analysis of BLM survey responses.

<sup>a</sup>The value of the financial assurance for this operation was \$2,000 more than the value of the cost estimate.

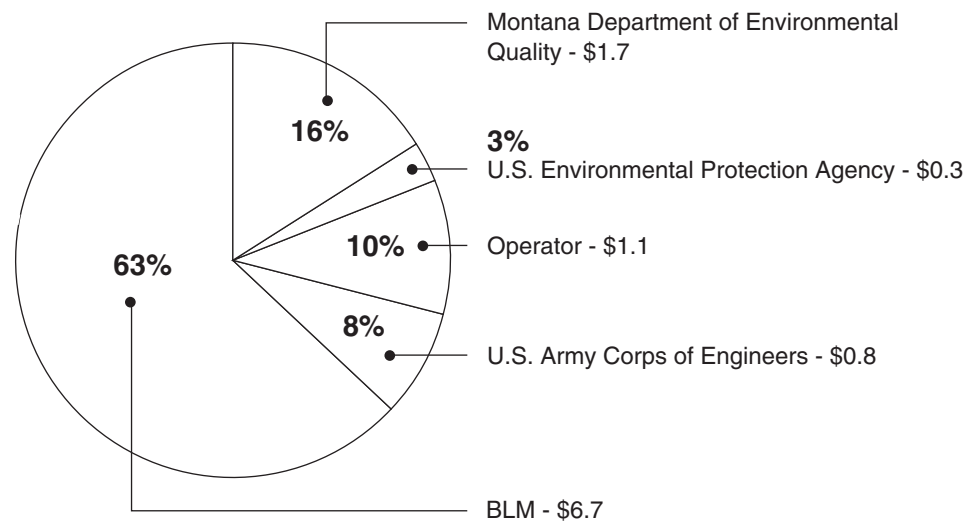
Because reclamation costs can be influenced by many factors, we did not attempt to project the amount that the cost estimates prepared before operations ceased were likely to be less than the amount currently needed to complete reclamation. However, BLM's past experience with reclamation costs indicates that cost estimates prepared after operations ceased likely will be higher than cost estimates prepared before operations ceased. Specifically, BLM updated cost estimates for 16 of the 43 operations for which cost estimates had been prepared before operations ceased, and those updated estimates were the same for 2, lower for 2, and higher for 12 operations. The increases in BLM's 12 higher estimates totaled about \$35.5 million, or about a 47 percent increase over the estimates before operations ceased, and ranged from \$690 to \$16.7 million per hardrock operation, while the decreases in BLM's 2 lower estimates totaled \$10,497, or about a 33 percent decrease, and were \$6,000 and \$4,497 for the two hardrock operations.

### Federal Agencies and Others Provided Only a Fraction of the Funds Needed to Pay Estimated Costs for Required Reclamation

As of July 2004, BLM reported that federal agencies and others had provided about \$10.6 million to help reclaim 11 operations. These funds accounted for about 8 percent of the estimated \$136 million needed to pay for required reclamation for operations identified by BLM as ceased and not reclaimed by operators. The sources and amounts of funds provided by others are shown in figure 8. Appendix III, table 19, shows the other sources of funds for the 48 operations.

**Figure 6: Sources of \$10.6 Million Provided by Others to Pay the Cost of Required Reclamation for 11 Operations Identified by BLM as Ceased and Not Reclaimed by Operators, as of July 2004**

Dollars in millions



Source: GAO analysis of BLM survey responses.

BLM headquarters provided over \$6.7 million to reclaim 10 operations. Nearly all of this amount—\$5,594,500—was for the Zortman and Landusky mining operation in Montana.<sup>37</sup> Officials in Montana's Lewistown field office told us that most of these funds came from BLM's Abandoned Mine Land Program and were used to remove leach pads and tailings, backfill

<sup>37</sup>Lewistown Montana BLM field office officials told us that BLM provided additional funds after July 2004.

pits, and treat water.<sup>38</sup> BLM headquarters officials told us that some of the funds used to reclaim the 10 operations were special funds that became available on a one-time basis as the result of a GAO report.<sup>39</sup> In March 2001, we reported that BLM had improperly used Mining Law Administration Program funds for purposes other than intended by that program and recommended that BLM correct the improper charges. BLM made the corrections and, according to BLM headquarters officials, used some of the funds for reclamation.

The U.S. Army Corps of Engineers (the Corps) provided about \$0.8 million to reclaim two operations through its Restoration of Abandoned Mines Sites (RAMS) program, according to BLM. The RAMS program, created in 1999, allows the Secretary of the Army to provide assistance to federal and nonfederal entities for projects to address water quality problems caused by drainage and related activities from inactive and abandoned noncoal mines, such as hardrock operations. Specifically, BLM reported that the Corps provided \$171,000 to reclaim the Easy Jr Mine located near Ely, Nevada. These funds were used for a site characterization study and for construction to close the operation, with the primary goal of recontouring and reclaiming a heap-leach pad. In addition, the Corps provided \$600,000 to reclaim the Golden Butte Mine, which is also located near Ely, Nevada. This project included collecting and analyzing water data, characterizing the leach pad, and developing a closure plan. The Corps also partnered with BLM through the RAMS program on another operation that had ceased and not been reclaimed by the operator—the Elder Creek operation located near Battle Mountain, Nevada. BLM told us that, as of July 2004, the Corps had provided all of the funds to develop the engineering closure design for this project, but BLM did not identify the amount of funds provided.

Funds to reclaim the Zortman and Landusky mining operation also were provided from other sources, according to BLM. Through a bankruptcy procedure, the bankrupt operator provided \$1,050,000 to help reclaim the

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<sup>38</sup>The Abandoned Mine Land Reclamation Program is authorized by Title IV of the Surface Mining Control and Reclamation Act of 1977 and provides funds for reclamation and restoration of land mined and abandoned or left inadequately restored before August 13, 1977, and for which there is no continuous reclamation responsibility under state or other federal laws.

<sup>39</sup>GAO, *Bureau of Land Management: Improper Charges Made to Mining Law Administration Program*, [GAO-01-356](#) (Washington, D.C.: Mar. 8, 2001).

operation. The Environmental Protection Agency provided \$340,000 in grant funds, primarily to prepare a supplemental environmental impact statement. Finally, the Montana Department of Environmental Quality provided \$1,697,000 for reclamation activities, such as studies, sampling, tailings removal, water treatment, and monitoring.<sup>40</sup> The status of reclamation in 1993 and 2004 for the Zortman and Landusky mining operations is shown below.

**Description of Zortman and Landusky Mine**

The Zortman and Landusky Mine is located in north-central Montana on about 1,200 acres, half of which are on BLM land. The operation, originally permitted in the 1970s, was the first large open-pit gold mine to use heap leaching in the United States. BLM reported that the operation began under a BLM-approved plan of operation in 1981 and ceased in 1999 after Pegasus Gold, the parent company, went bankrupt. BLM reported that, as of July 2004, over 85 percent of the required reclamation had been done and that complete reclamation is very likely.

Source: BLM and others.

<sup>40</sup>Most of this money came from Resource Indemnity Trust Grants, which are derived from taxes on coal mining in the state.

**Figure 7: Zortman and Landusky Mining Operations at or Near Buildout in 1993 and Status of Reclamation in 2004**

Zortman 1993  
at full buildout



Landusky 1993  
near full buildout



Source: BLM.





Zortman 2004  
Reclamation near  
completion



Landusky 2004  
Reclamation near  
completion

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**The \$136 Million Estimate of Costs for Required Reclamation Is Understated to the Extent That BLM Did Not Identify or Report on All Hardrock Operations**

The \$136 million estimate of costs for required reclamation for hardrock operations that had ceased and not been reclaimed by the operators as required is understated to the extent that BLM did not identify or report information on all such operations. For example, officials in Oregon's BLM state office estimated that 20 notice-level operations in Washington state met these criteria, but neither the Oregon BLM state office nor its field offices completed our surveys for any of these operations. State office officials did not explain why surveys had not been completed for these notice-level operations. Clearly, the \$136 million estimate would be higher if BLM's state or field offices had reported this information. Furthermore, some other BLM offices had difficulty identifying operations that met our criteria and may not have identified all such operations. For example, Nevada's BLM state office completed additional hardrock operation surveys after we questioned whether they had identified all the operations that met the criteria. For more detailed information on the difficulties in identifying hardrock operations that met our criteria, see our scope and methodology in appendix I.

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**Required Reclamation Has Been Completed for 5 of the 48 Hardrock Operations, and BLM Officials Believe That Reclamation Will Likely Be Completed for 28 Others**

BLM reported that, as of July 2004, required reclamation had been completed for 5 of the 48 hardrock operations on BLM land that had ceased and not been reclaimed by operators since it began requiring financial assurances, and it expects to complete reclamation for most of the remaining operations. BLM reported that the reclamation status was in various stages or unknown for the 43 operations that had not completed reclamation. BLM officials' views on the likelihood of completing required reclamation for these operations varied, but they believed that 28 of the 43 operations are likely to be reclaimed, as shown in table 11. Appendix III, table 19, shows the status and likelihood of completing reclamation for the 48 operations.



**Table 11: Reclamation Status and BLM Views on the Likelihood of Completing Reclamation of 43 Hardrock Operations for Which Required Reclamation Had Not Been Completed by Operators, as of July 2004**

Reclamation status		BLM's views on the likelihood of completing reclamation			
Percent of reclamation completed	Number of hardrock operations	Somewhat or very likely	About as likely as unlikely	Somewhat or very unlikely	No answer
96-99	4	4	0	0	0
76-95	7	6	0	1	0
51-75	3	3	0	0	0
26-50	4	1	0	3	0
1-25	8	5	0	3	0
0	13	7	5	1	0
Do not know	4	2	0	1	1
<b>Total</b>	<b>43</b>	<b>28</b>	<b>5</b>	<b>9</b>	<b>1</b>

Source: GAO analysis of BLM survey responses.

Required reclamation of the five operations that were fully completed was accomplished with funds from several sources. For three of the five operations, financial assurances were sufficient to cover the costs to complete reclamation, including one for which the operator did some reclamation and negotiated with BLM to have BLM do the remaining reclamation. For the other two operations, BLM paid at least part of the reclamation costs. Specifically, BLM spent \$92,000 to reclaim one operation that had no financial assurances, and spent \$15,000 to reclaim another operation whose financial assurance was less than the most recent reclamation cost estimate. In the latter case, the operator agreed to abandon the claim if BLM did the reclamation; the operation was in a wild and scenic river canyon in California.

BLM officials generally believed that required reclamation would be completed for most of the 43 operations that had not been reclaimed by the operators as of July 2004. They reported that required reclamation was somewhat or very likely for 28, or almost two-thirds of the 43 operations. Some BLM officials believed reclamation would be completed because funds were available from financial assurances or other sources. For example, BLM reported that completion was very likely for the Zortman and Landusky mining operation in Montana, which was between 86 and 95 percent reclaimed as of July 2004, partly because funds for earthwork were available and work was under way. At the same time, BLM noted that more than \$18 million in additional funds would be needed to maintain water treatment at the operation in perpetuity. In other cases, officials believed

that operations may be taken over by new operators, or reopened by the existing operators, who will ultimately complete reclamation of the operations. For example, BLM reported that completing reclamation of an operation in Alaska that was less than 50 percent reclaimed was very likely because another operator agreed to reclaim the area in conjunction with taking over the operation from the bankrupt operator. Conversely, BLM reported that completing required reclamation was somewhat or very unlikely for nine operations, most of which had less than 50 percent of required reclamation completed as of July 2004. BLM said that the operators of several of these operations could not do the required reclamation, usually because they lacked funds.

### **BLM's LR2000 Is Not Reliable and Sufficient for Managing Financial Assurances for Hardrock Operations**

BLM's LR2000 is not reliable and sufficient for managing financial assurances to cover reclamation costs for BLM land disturbed by hardrock operations because staff do not always update information, and LR2000 is not currently designed to track certain critical information. Specifically, staff have not entered information on every hardrock operation and, for those hardrock operations included in LR2000, information is not always current. In addition, the system does not track some information on hardrock operations and their associated financial assurances, which we believe is critical for effectively managing financial assurances. This information includes the basic status of operations, some types of allowable financial assurances, and state- and county-held financial assurances. Given these limitations, it is not surprising that BLM's reliance on LR2000 to manage financial assurances is mixed. In part to compensate for LR2000 limitations, some BLM offices use informal record-keeping systems to help manage financial assurances. BLM has taken some steps and identified others to improve LR2000 for managing financial assurances for hardrock operations.

### **Information in LR2000 Is Not Reliable and Sufficient**

Information in LR2000 is not reliable and sufficient because staff do not always update the information, and the system is not currently designed to track critical information. Specifically, some hardrock operations are not in LR2000:

- In Nevada—the state with the largest number of hardrock operations—LR2000 does not contain information on all hardrock operations that a state BLM official's informal records show. When Nevada officials queried LR2000 during our visit, the system showed 248 plan-level

operations in the state. However, according to a senior Nevada BLM state office official who keeps informal records of the hardrock operations, some of the operations are not in LR2000; his records contain 300 plan-level operations. According to BLM state and field office officials, some operations are not in the system because some data were lost during the conversion from an earlier information system to LR2000 in 1999. Officials in one Nevada field office told us that they have not had time to reenter some of the lost data but plan to do so in the future.

- Alaska—with 240 hardrock operations—does not use LR2000 to record information on these operations. Instead, BLM state office officials told us that they use the Alaska Land Information System (ALIS) because LR2000 cannot be used to meet the office's other needs. That is, LR2000 cannot process the conveyance of land from the federal government to the state of Alaska and to Native villages and corporations. In addition, the costs and staff time associated with incorporating the information in ALIS into LR2000 contributed to BLM's decision to continue to use ALIS.
- In BLM's March 2004 assessment of 18 of its 157 field offices' compliance with current hardrock regulations, 3 of the 18 offices reported that all hardrock operations were not recorded in LR2000. For example, one of these field offices reported that its office had only recently received training on LR2000.

Furthermore, for some operations that are in LR2000, information is not up to date. For example, in responding to our survey regarding the number of existing notice- and plan-level hardrock operations with financial assurances, the New Mexico state office explained that some of its existing operations without financial assurances may be inactive and should be closed in LR2000. BLM officials are to open a case in LR2000 when a notice or plan of operation is received, and they are to close the case in LR2000 when operations have ceased and reclamation is complete. However, BLM state and field office officials reported that data entry is not always timely. For example, some field office officials told us that they do not enter data until the winter, when it is more difficult to work in the field and they spend more time in the office. In addition, in BLM's March 2004 assessment, 11 of the 18 field offices reported that the results of compliance inspections were not entered in a timely manner.<sup>41</sup> These inspections are critical to ensuring

<sup>41</sup>In this survey, BLM defined timely as within 5 days.

that all hardrock operations are meeting federal requirements. The field offices explained that this problem occurred because of other office priorities, lack of staff trained to use LR2000, and staff workload. In addition, the BLM officials who administer LR2000 said the quality of the data currently in LR2000 varied in part because of the varied emphasis the field offices gave to data entry.

LR2000 also does not track some critical information on hardrock operations and their associated financial assurances. In particular, LR2000 does not track the following:

- *The status of hardrock operations, such as whether the operation is ongoing or has ceased and should be reclaimed.* LR2000 uses the term “open” to identify both operations that are ongoing and operations that have ceased and should be reclaimed. It uses the term “closed” to refer to those operations where reclamation has been completed. While field staff should know whether an operation is ongoing or has ceased because of first-hand knowledge or access to case files in their offices, BLM headquarters and state office officials do not have ready access to this basic information. For example, in response to our survey regarding the number of ongoing hardrock operations with financial assurances, the Arizona state office reported that only 32 of 55 plan-level operations had financial assurances. The office also reported that it was reviewing its case files to determine the status of the operations without financial assurances, such as whether any of these operations have ceased, been reclaimed, and should have been closed in LR2000. Also, in response to our survey, the California state office reported that LR2000 showed 639 “open” hardrock operations in the state, but officials estimated that only 303 of these operations were actually ongoing. Furthermore, for 9 of the 13 states with hardrock operations, BLM state offices reported that they did not track the status of reclamation where operators had failed to do required reclamation using LR2000 or other means.<sup>42</sup>
- *Information on all types of financial assurances allowed under federal regulations.* LR2000 has data entry fields for five of the allowed types of assurances—surety bonds, letters of credit, certificates of

<sup>42</sup>BLM state office officials completed state surveys for those states within their jurisdiction with hardrock operations—a total of 13 states. The BLM Montana state office said that one state within its jurisdiction—South Dakota—had only two hardrock operations, both of which had ceased operating and were being reclaimed by the operators.

deposit, cash, and treasury securities—as well as a “personal” field. However, some of the missing types of financial assurances, such as corporate guarantees, bond pools, and trust funds, are being used to guarantee reclamation costs. For example, corporate guarantees covered \$204 million in reclamation costs, or 24 percent of the total value of financial assurances that BLM reported as of July 2004. To overcome this system limitation, the Nevada BLM state office uses the “personal” field to track information on both corporate guarantees and operations covered by the state bond pool. Without the capability to track all types of financial assurances, BLM cannot identify the total amount of reclamation costs that each type of financial assurance guarantees.

- *Information on financial assurances held by the state or county agencies.* Several BLM state offices reported that some financial assurances for hardrock operations on BLM land are held by state or county agencies and are not included in LR2000. For example, the Montana BLM state office contacted the Montana Department of Environmental Quality to obtain information on the types and amounts of financial assurances. The Idaho office reported that it relies on its own informal records to track state-held financial assurances and provided the information. In California, where county agencies can hold the financial assurances for hardrock operations on BLM land, the office reported that it does not have information on all financial assurances held by the counties and did not contact them to provide it. In commenting on a draft of this report, Interior stated that BLM issued an instruction memorandum in April 2005 to provide guidance and direction on data standards for LR2000.<sup>43</sup> The instruction memorandum states that BLM data entry staff must use a specific action code when financial assurances are filed and instructs the staff to use that action code when BLM receives documentation that a financial assurance is held by another agency.

## BLM Makes Limited Use of LR2000

Given LR2000's limitations, it is not surprising that BLM's reliance on the system to manage financial assurances is mixed. At the headquarters level, BLM does not always rely on information in LR2000. Rather, to obtain information needed on hardrock operations and associated financial

<sup>43</sup>BLM Instruction Memorandum 2005-126, *Data Standard Changes for Surface Management Plans of Operations*, (Apr. 14, 2005).

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assurances, BLM headquarters officials must contact their state and field offices. For example, because the information was not in LR2000, in March 2003, BLM headquarters requested information from its state and field offices on the number of notice-level operations that (1) did not meet the required deadline to request an extension, (2) requested an extension, and (3) were extended under the 2001 regulations. BLM needed this information to determine if all notice-level operations were in compliance with current regulations.<sup>44</sup>

Furthermore, BLM headquarters does not always rely on LR2000 to answer questions on financial assurances at a national or state level from the Congress, the public, and other interested parties. For example, BLM headquarters could not provide information on hardrock operations and financial assurances in response to our request for such information and told us we would have to get this information from the state and field offices. State offices told us that some of the critical information, such as the status of the hardrock operation and reclamation cost estimates needed to determine the adequacy of the financial assurances, is in paper case files located in the field offices. Others also have found that BLM does not systematically use LR2000 to track information on hardrock operations. For example, in its 1999 report on hardrock mining, the National Research Council found no systematic, easily available compilation and analysis of information about hardrock operations on BLM land.<sup>45</sup>

At the state- and field office-levels, BLM's reliance on LR2000 for managing financial assurances for hardrock operations varies. BLM state offices reported that in four states with hardrock operations LR2000 was relied on to little or no extent; in eight states, to a moderate or some extent; and in one state—Nevada—to a very great extent.<sup>46</sup> Of the four BLM state offices reporting little or no reliance on LR2000, two explained that there is no BLM state office oversight of the program; one defers program responsibility to the state agency; and one has few hardrock operations.

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<sup>44</sup>BLM Instruction Memorandum 2003-118, *43 C.F.R. 3809 Notice-Workload Analysis* (Mar. 24, 2003).

<sup>45</sup>National Research Council, *Hardrock Mining on Federal Lands* (Washington, D.C.: 1999).

<sup>46</sup>We asked each of the BLM state offices with hardrock operations to what extent the state office or its field offices rely on information in BLM's LR2000 system for managing the financial assurance program for hardrock operations. The categories were: little or no extent, some extent, moderate extent, great extent, and very great extent. The Alaska BLM state office answered this question for ALIS.

The lack of reliance on LR2000 for managing financial assurances is due in part to state office concerns about the reliability and adequacy of information in the system. For example, as discussed earlier, some BLM state offices do not use LR2000 because it does not contain information on financial assurances held by state or county agencies. States' views on the reliability and adequacy of LR2000 are shown in table 12.

**Table 12: States' Views on Reliability and Adequacy of LR2000 to Manage Financial Assurances**

Survey question: To what extent is the information in LR2000	BLM state offices' views					
	Did not use LR2000 to manage financial assurances	Very unreliable/ Inadequate	Unreliable/ Inadequate	Marginal or borderline reliability/ Adequacy	Generally reliable/ Adequate	Very reliable/ More than Adequate
Reliable for managing financial assurances <sup>a</sup>	2	2	1	2	5	1
Adequate to manage financial assurances <sup>b</sup>	2	2	1	2	6	<sup>c</sup>

Source: GAO's analysis of BLM survey responses.

<sup>a</sup>We asked each of the BLM state offices with hardrock operations how reliable is the information in LR2000 for managing financial assurances. The categories were: very unreliable, unreliable, marginal or borderline reliability, generally reliable, very reliable, or do not use LR2000 for this purpose. The Alaska BLM state office answered this question for ALIS.

<sup>b</sup>We asked each of the BLM state offices with hardrock operations how adequate is the information in LR2000 for managing financial assurances. The categories were: very inadequate, inadequate, marginal or borderline adequacy, generally adequate, more than adequate, or do not use LR2000 for this purpose. The Alaska BLM state office answered this question for ALIS.

<sup>c</sup>None of the BLM state offices chose this response.

Some BLM offices reported using informal record-keeping systems or records to track information on hardrock operations and associated financial assurances within their jurisdiction. For example:

- In Alaska, the field offices use an Alaska state agency database to obtain information on the number of existing notice- and plan-level hardrock operations.
- The New Mexico BLM state office has an informal database that lists all financial assurances filed and approved to track financial assurance information in the state.
- The Nevada BLM state office uses field offices' logs and the Nevada state database to track information on hardrock operations.



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- The Idaho BLM state office maintains informal records on state-held financial assurances.

According to agency officials, BLM has taken some steps to improve the information in LR2000 and is planning others. Specifically, BLM reported the following actions:

- *Developing revised data standards for LR2000, which have not been updated since the 1990s.* These standards set forth the type and format of information that must be entered into LR2000. Officials are considering expanding information on the status of hardrock operations in the system to show whether operations have been abandoned and the type of activity associated with the operation, such as mining and road construction. In commenting on a draft of this report, Interior stated that BLM's April 2005 instruction memorandum provided guidance on action codes to track the length of time between submission and approval of hardrock plans of operation.
- *Planning to add an additional report to LR2000 so that BLM officials can directly compare information on hardrock operations with their associated financial assurances.* The creation of this report was prompted by a request from the Nevada BLM state office for this information.
- *Reengineering LR2000 to better reflect the way BLM does business so that officials will have better management information.* Officials said that while progress has been made on this effort with some other BLM programs, such as oil and gas, reengineering BLM's data management for hardrock operations is planned for the future.

BLM state offices also identified some changes to LR2000 that could help them better manage financial assurances for hardrock operations. These changes included ensuring the codes in LR2000 match the on-the-ground conditions of operations; changing it to better identify critical information on financial assurances, such as those held by state and county agencies; and enhancing its capability to notify BLM officials when it is time to review financial assurance amounts. According to BLM officials responsible for administering LR2000, the system has the capacity to handle virtually any changes that the state and field offices request. In commenting on a draft of this report, Interior stated that BLM will continue to refine and enhance LR2000 data systems as needed to facilitate the hardrock mining program.

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## Conclusions

Having adequate financial assurances to pay reclamation costs for BLM land disturbed by hardrock operations is critical to ensuring that the land is reclaimed if operators fail to complete reclamation as required. Furthermore, financial assurances must be based on sound reclamation plans and current cost estimates so that BLM can be confident that financial assurances will fully cover reclamation costs. For years, BLM headquarters has relied on BLM state offices that, in turn, rely on BLM field offices and sometimes on state and county agencies to obtain adequate financial assurances. However, while federal regulations and BLM guidance set forth financial assurance requirements for notice- and plan-level hardrock mining operations, BLM does not have a process for ensuring that the regulations and guidance are effectively implemented to ensure that adequate financial assurances are actually in place, as required.

Moreover, BLM does not know whether all hardrock operations have adequate financial assurances because of limitations in the types of information collected in LR2000 and failure of staff to update information in a timely manner. Specifically, LR2000 does not track the status of hardrock operations, whether each existing operation that requires a financial assurance has the assurance, and whether the financial assurance is adequate to pay the cost of required reclamation.

Because BLM does not have an effective management process and critical management information, it has not ensured that some current and previous operators have adequate financial assurances, as required by federal regulations and/or BLM guidance. Furthermore, some operations either do not have any, or have outdated reclamation plans and/or cost estimates. When operators without any financial assurances, or with inadequate financial assurances, fail to reclaim BLM land disturbed by their hardrock operations, BLM is left with public land that requires tens of millions of dollars to reclaim and poses risks to the environment and public health and safety. Until BLM establishes monitoring and accountability mechanisms to ensure that all operations have required financial assurances—based on sound reclamation plans and current cost estimate—and improves the information it collects to effectively manage financial assurances, these problems will continue.

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## Recommendations for Executive Action

To ensure that hardrock operations on BLM land have adequate financial assurances, we recommend that the Secretary of the Interior direct the Director of BLM to take the following two actions:

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- require the BLM state office directors to establish an action plan for ensuring that operators of hardrock operations have required financial assurances and that the financial assurances are based on sound reclamation plans and current cost estimates, so that they are adequate to pay all of the estimated costs of required reclamation if operators fail to complete the reclamation, and
  - modify LR2000 to ensure that it tracks critical information on hardrock operations and associated financial assurances so that BLM headquarters and state offices can effectively manage financial assurances nationwide to ensure regulatory requirements are met.

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## Agency Comments and Our Evaluation

We received written comments on a draft of this report from the Department of the Interior. Interior stated that it appreciated the advice and critical assessment we provided on BLM's management of financial assurances required for hardrock operations. However, Interior did not acknowledge or address specific deficiencies identified in our report and did not concur with our recommendations or the conclusions upon which the recommendations were based.

In commenting on our recommendation to establish an action plan for ensuring that operators of hardrock operations have required financial assurances, Interior stated that existing procedures and policies ensure financial guarantees are in place to protect the public should an operator fail to reclaim. We disagree and believe that Interior's view is inconsistent with the evidence we developed based on information provided by BLM's own offices. While we agree that existing federal regulations and BLM guidance require financial assurances to cover all reclamation costs for notice- and plan-level hardrock operations, the evidence in our report shows that notices and plans of operation do not always have adequate financial assurances, as required. As we stated in this report, BLM state offices with existing hardrock operations informed us that, as of July 2004, some notice- and/or plan-level operations did not have adequate financial assurances. Furthermore, the evidence is clear that hardrock operations have ceased without operators having the adequate financial assurances required by regulations and BLM guidance. As a result, funds are not available to pay at least \$56.4 million in reclamation costs for operations that had ceased and not been reclaimed since BLM began requiring financial assurances. We continue to believe that this evidence clearly calls for a plan of action that includes monitoring and accountability

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mechanisms to ensure that the requirements in the federal regulations and BLM guidance to have adequate financial assurances are met.

In commenting on our recommendation to modify LR2000 to ensure that it tracks critical information on hardrock operations and associated financial assurances, Interior stated that BLM does track all critical information on authorized operations in LR2000. Again, we disagree with BLM's opinion and find this view troubling when viewed in the context of clear evidence to the contrary presented in this report. As we reported, LR2000 does not track the critical information needed to effectively manage and oversee financial assurances, including the operation's basic status, such as whether the operation is ongoing or has ceased and should be reclaimed; some types of financial assurances being used, such as corporate guarantees, bond pools, and trust funds; and the adequacy of financial assurances to pay the cost of required reclamation. We are encouraged by BLM's April 2005 instruction memorandum to provide guidance and direction on data standards for LR2000 and the recent addition of codes and edits to LR2000 for plans of operations and financial guarantees, and we have added information to our report, as appropriate. We are also encouraged by BLM's willingness to refine and enhance LR2000. However, we continue to believe that until BLM timely enters, tracks, and uses this critical information it will not be able to effectively manage financial assurances to ensure that federal regulations and BLM guidance are followed.

Interior also suggested some technical changes that we have incorporated as appropriate. Interior's letter is included in appendix IV, along with our comments.

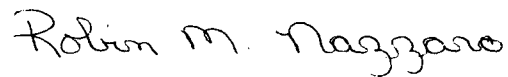
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As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. We will then send copies to other appropriate congressional committees and to the Secretary of the Interior. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

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If you or your staff have any questions concerning this report, please contact me at (202) 512-3841 or [Nazzaror@gao.gov](mailto:Nazzaror@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix V.

Sincerely yours,

A handwritten signature in cursive script that reads "Robin M. Nazzaro".

Robin M. Nazzaro  
Director, Natural Resources and Environment

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# Objectives, Scope, and Methodology

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This appendix details the methods we used to examine three aspects of financial assurances used to cover reclamation costs for the Department of the Interior's Bureau of Land Management (BLM) land disturbed by hardrock exploration, mining, and processing operations. Specifically, we were asked to determine the (1) types, amount, and coverage of financial assurances operators currently use to guarantee reclamation costs; (2) amount that financial assurance providers and others have paid to reclaim operations that had ceased and not been reclaimed since BLM began requiring financial assurances and the estimated costs of completing reclamation for such operations; and (3) reliability and sufficiency of BLM's automated LR2000 information system for managing financial assurances for hardrock operations.

To address these objectives, we designed two surveys to obtain information from BLM's state and field offices because they maintain the case files and other specific information on hardrock operations. We asked the 12 BLM state offices that manage BLM programs across the United States to complete surveys for each state in their jurisdiction with hardrock operations. The 12 BLM state offices were Alaska, Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Wyoming, and Eastern States.<sup>1</sup>

We used the first survey, which focused on states' experiences with hardrock operations, to determine the types and amounts of financial assurances currently used to guarantee reclamation costs. Specifically, we asked the 12 BLM state offices to provide information on (1) the number of existing hardrock operations for each state within their jurisdiction, (2) the types and the amounts of financial assurances provided for existing hardrock operations in each state, (3) their views on the effectiveness of the various types of financial assurances, (4) their views on the reliability and sufficiency of hardrock operation data contained in the LR2000, and (5) their use of LR2000 for managing hardrock operations in their states.

We used the second survey, which focused on selected hardrock operations, to determine the amount of funds provided by financial assurances and others to reclaim hardrock operations that had ceased and

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<sup>1</sup>Some of the 12 BLM state offices manage BLM programs in more than one state. For example, the BLM Montana state office manages BLM programs in Montana, North Dakota, and South Dakota, and the Oregon state office manages BLM programs in Oregon and Washington.

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**Appendix I**  
**Objectives, Scope, and Methodology**

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not been reclaimed by operators since BLM began requiring financial assurances and the estimated costs of completing reclamation of such operations. We asked the state offices to provide detailed information on each hardrock operation within their jurisdiction that met both of the following criteria: the operator (1) ceased operations after the requirement for financial assurances went into effect—August 1990 for plan-level operations, January 2001 for new notice-level operations, and January 2003 for existing notice-level operations—and (2) failed to complete the required reclamation. In most cases, BLM field office staff completed this survey because hardrock operation case files are maintained in these offices. Also, as necessary, we obtained information from BLM state and field staff to clarify responses to the survey. We used the information obtained to determine the estimated reclamation costs and the adequacy of financial assurances for reclaiming the hardrock operations that BLM identified as meeting our criteria.

To determine the adequacy of financial assurances, we compared the most recent complete reclamation cost estimate that BLM reported for each operation with the dollar value of the financial assurance that BLM reported for that operation. We then computed the difference between the most recent cost estimate and the value of the financial assurance to determine the total net excess or deficiency of the financial assurances. The total is the sum of the differences between the values of the financial assurances and the cost estimates that were made at different times over the past 15 years and were not adjusted for inflation. For each operation, we asked BLM to report the value of the (1) estimates that the operator had before operations ceased, (2) estimates that BLM prepared after operations ceased, (3) actual reclamation costs, (4) BLM's estimate of the shortfall in funds needed to complete reclamation in excess of funds relinquished by the financial assurance provider, and (5) BLM's estimates of funds needed to complete required reclamation. BLM reported one or more of these values for 43 operations, and no value for the other 5 operations. For 24 of these 43 operations, BLM reported only one value, and we used that value as the most recent reclamation cost estimate. For the other 19 operations, BLM reported two or more values. In determining which value to use for our analysis, we generally did not use the (1) actual costs for operations that were not fully reclaimed because the actual cost could not be known unless reclamation was complete and (2) estimated funds needed to complete reclamation for operations that were partly reclaimed because those estimates did not include funds that had already been spent. We used the following values as the most recent reclamation cost estimate for these 19 operations.



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- For 12 operations, we used BLM's estimate prepared after operations ceased because those estimates were the most recent.
- For three operations that BLM reported as having no reclamation completed or not knowing the status of reclamation, we used BLM's reported estimate of funds needed to complete required reclamation.
- For one operation that BLM reported as being fully reclaimed, we used BLM's reported actual cost.
- For one operation, we used BLM's estimate of the shortfall of funds needed in excess of funds relinquished by the financial assurance provider because that estimate was the most recent and most accurate, according to BLM officials.
- For one operation, we used the estimate available before operations ceased because the only other value reported for the operation was BLM's estimate of funds needed to complete reclamation and reclamation was only partly completed.
- For one operation, we used the estimate available before operations ceased because the other values reported for the operation were BLM's estimate of funds needed to complete reclamation and the reported amount of actual costs, but reclamation was only partly completed.

We provided a copy of these two surveys to BLM headquarters and incorporated officials' comments as appropriate. We also pretested these surveys with state and field office staff in Nevada, Utah, and Arizona and made changes in the surveys' scope and content as appropriate. Further, after respondents submitted their answers, we (1) verified the information in the survey that focused on states' hardrock operations experience through discussions with BLM officials in two state offices with extensive financial assurance experience in hardrock operations—Nevada and Montana—and (2) verified information reported in four randomly selected hardrock operations surveys through discussions with officials and a review of case files in three Nevada field offices—Carson City, Elko, and Winnemucca—and one Montana field office—Lewistown. We checked the answers respondents had given to the questions against information contained in the case files. In many cases, staff provided answers based on their own knowledge and information in the case files.

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Some BLM state offices had difficulty identifying hardrock operations that met our criteria. For example, some states completed our surveys for hardrock operations that did not appear to meet our criteria, and we contacted the respondents to clarify whether the operations did or did not meet the criteria. We eliminated 12 surveys that did not meet the criteria from our analysis.

Furthermore, we cannot know whether BLM reported to us all hardrock operations that met our criteria. To address this concern, we took additional steps to help ensure that BLM completed the selected hardrock operations survey for all operations that met our criteria. For example, in Nevada, we compared a list of bankrupt operations prepared by the Nevada Bonding Task Force with a list of BLM's completed surveys to identify potential omissions. In addition, we asked selected experts, interest groups, and others to identify instances when operators failed to complete required reclamation and the federal government or others paid such reclamation costs or the required reclamation was not fully completed. To the extent that BLM staff did not identify all of the operations that met our criteria or did not report information on those operations that did meet the criteria, the information the BLM staff reported is incomplete. Furthermore, we did not collect information on the thousands of ceased hardrock operations since 1872 that did not require financial assurances and, therefore, fell outside the scope of this review.

To determine the reliability and sufficiency of BLM's LR2000 system, we spoke with BLM information technology officials in the headquarters unit near Denver, Colorado, who are responsible for administering the system; BLM state and field office staff in two states who enter information into the system; and BLM managers at headquarters and in two states who use information from the system. In addition, we visited information technology officials near Denver to discuss the structure and history of LR2000 and to observe firsthand how data are entered into and processed by the two subsystems used to manage financial assurances—the Case Recordation System, which contains information about hardrock operations, and the Bond and Surety System, which contains information about financial assurances. Also, in our two surveys of BLM's 12 state offices, we asked questions to gather data on whether each respondent used LR2000 to respond to the survey. Specifically, we asked questions about whether the information used to respond came from LR2000 or from state office personnel's knowledge, field office personnel's knowledge, other databases, case files, or other sources. These questions helped us

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determine the extent to which BLM officials used and relied on the data in LR2000.

It is important to note that the practical difficulties of conducting any survey introduce various types of errors. Differences in how a particular question is interpreted and differences in the sources of information available to respondents can also be sources of survey response errors. We included steps in both the data collection and data analysis stages to minimize such errors. These steps included developing our survey questions with the aid of our survey specialists, conducting pretests of the questionnaires, and twice verifying the entry of survey data where applicable.

In addition to the surveys, we took several steps to understand BLM's management and oversight of hardrock operations and the use of financial assurances to ensure reclamation. We reviewed GAO reports, federal laws and regulations, BLM documents, and independent studies on hardrock operations and financial assurances. We also discussed these issues with BLM officials at headquarters and in selected state and field offices in Arizona, Montana, Nevada, and Utah. To understand the relationship between BLM and state agencies responsible for overseeing hardrock operations, we met with BLM and state agency officials in Colorado and Nevada, and we reviewed relevant memorandums of understanding and other documents for these and other states. We also discussed relevant hardrock operation and financial assurance issues with experts and representatives from the mining industry, academia, and environmental groups. Finally, to better understand hardrock operations and reclamation requirements, we visited five hardrock operations on BLM land in two states—the Florida Canyon, MacArthur Mine, Olinghouse, and Relief Canyon operations in Nevada and the Zortman and Landusky operation in Montana.

We conducted our review from October 2003 through May 2005 in accordance with generally accepted government auditing standards, including an assessment of data reliability.

## Appendix II

# Number of Notice- and Plan-Level Hardrock Operations and Value of Associated Financial Assurances

This appendix provides information on the number of notice- and plan-level operations and dollar value of associated financial assurances for the 12 states with existing hardrock operations as of July 2004, as reported by BLM.

**Table 13: Number of Notice- and Plan-Level Hardrock Operations and Associated Financial Assurances, by State, as of July 2004**

State	Notice-level operations		Plan-level operations		Total for notice- and plan-level hardrock operations	
	Number of operations	Value of financial assurances	Number of operations	Value of financial assurances	Number of operations	Value of financial assurances
Alaska	134	<sup>a</sup>	106	<sup>a</sup>	240	\$1,000,000
Arizona	130	446,107	55	4,326,891	185	4,772,998
California <sup>b</sup>	205	116,800	98	4,819,000	303	4,935,800
Colorado	102	14,600	30	1,722,313	132	1,736,913
Idaho <sup>c</sup>	32	43,761	23	751,771	55	795,532
Montana	150	<sup>d</sup>	30	<sup>d</sup>	180	109,307,930
New Mexico	24	<sup>e</sup>	11	<sup>e</sup>	35	4,298,989
Nevada <sup>f</sup>	450	7,001,785	324	621,495,665	774	629,684,465
Oregon	165	21,000	10	31,000	175	52,000
Utah <sup>g</sup>	167	552,556	49	2,175,629	216	2,728,185
Washington	127	<sup>h</sup>	12	<sup>h</sup>	139	<sup>h</sup>
Wyoming <sup>i</sup>	18	51,000	38	77,357,524	56	77,408,524
<b>Total</b>	<b>1,704</b>	<sup>j</sup>	<b>786</b>	<sup>j</sup>	<b>2,490</b>	<b>\$836,721,336</b>

Source: GAO analysis of BLM data.

<sup>a</sup>The Alaska state bond pool covers all hardrock operations in the state. The Alaska BLM office did not provide information on the value of financial assurances for each type of operation.

<sup>b</sup>The \$4,935,800 in financial assurances includes those held by BLM, the state of California, and some county agencies in California. However, it may not include all financial assurances held by California counties to guarantee reclamation of hardrock operations on BLM public land.

<sup>c</sup>The \$795,532 in financial assurances includes \$512,590 held by the state of Idaho and \$282,942 held by the BLM.

<sup>d</sup>Montana BLM holds \$66,390 in financial assurances for hardrock operations in the state. The majority of financial assurances funds, \$109,241,540, are held by the Montana Department of Environmental Quality. Neither the BLM nor the state agency provided information on the value of the financial assurances by type of operation.

<sup>e</sup>New Mexico BLM holds \$975,191 in financial assurances—\$71,898 for notice-level operations and \$903,293 for plan-level operations. Additional financial assurances held by the New Mexico Mining and Minerals Division for hardrock operations on BLM land total \$3,323,798. The New Mexico agency did not provide information on the value of these financial assurances by type of operation.

<sup>f</sup>The Nevada BLM reported that some operators in the state use statewide and nationwide financial assurances that the office could not separate by notice- and plan-level operation. The office estimated

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**Number of Notice- and Plan-Level Hardrock**  
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that 10 percent of the statewide and nationwide financial assurances cover notice-level and 90 percent cover plan-level operations and allocated assurances accordingly. The \$629,684,465 in financial assurances includes corporate guarantees held by the state of Nevada and one trust fund and the state bond pool, which are maintained by the State of Nevada.

<sup>g</sup>The \$2,728,185 in financial assurances for Utah includes those held by both the BLM and the state of Utah.

<sup>h</sup>The Oregon BLM state office did not provide information on the amount of financial assurances available to reclaim the 139 existing hardrock operations it identified in the state of Washington on BLM public land. The office reported no individual bonds are used for operations in Washington state, but that a statewide bond is held by the Washington Department of Ecology.

<sup>i</sup>The state of Wyoming holds all financial assurances to guarantee reclamation of BLM public land.

<sup>j</sup>The total value of financial assurances for notice-level operations or the total value for plan-level operations is not available because BLM did not provide this information for some states.

# Detailed Information on 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators

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This appendix provides detailed information obtained from our survey on the 48 hardrock operations that BLM identified as ceased but not reclaimed by the operator since BLM began requiring financial assurances. Specifically, the appendix presents tables 14 through 19 showing: the basic characteristics of the 48 hardrock operations; key reclamation dates; BLM steps to compel operators to reclaim BLM land disturbed by hardrock operations and reasons operators did not reclaim the land; estimated reclamation costs; the types and amount of financial assurances and the amount of financial assurances relinquished and spent on reclamation; and sources of other funds and the status of reclamation.

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**Table 14: Basic Characteristics of 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators**

State and operation	Authority	Type of operation	Primary hardrock mineral	Heap-leaching	BLM acres
<b>Alaska</b>					
Chapman Creek Mining	Plan	Mining; other (road construction)	Gold	No	5
R D Environmental Mining	Plan	Exploration; mining	Gold	No	2
Gold Hill Mining	Plan	Mining	Gold	No	30
Nixon Fork Mine	Plan	Exploration; mining	Gold	No	115
<b>Arizona</b>					
Tyro Mill	Plan	Other (gold milling)	Gold	No	20
Granite Property	Plan	Exploration	Gold	No	<sup>a</sup>
Herring Mine	Plan	Mining	Gold	No	2
SKOR	Plan	Mining	Gold	No	3
UFO	Plan	Mining	Gold	No	12
Ironwood Claim Group	New notice	Exploration	Gold	No	<sup>a</sup>
<b>California</b>					
Screech Owl	Plan	Exploration	Gold	No	2
Nina	Plan	Mining; other (placer gold wash plant)	Gold	No	4
<b>Idaho</b>					
West One Minerals	Plan	Exploration; mining	Limestone	No	7
<b>Montana</b>					
Snowbound Placer	New notice	Exploration	Gold	No	0
Zortman & Landusky Mine	Plan	Mining	Gold	Yes	684
Zortman Exploration Plans	Plan	Exploration	Gold	Yes	88
<b>Nevada</b>					
Adelaide Crown	Plan	Mining	Gold	Yes	69
Wildhorse Canyon	Plan	Exploration	Gold	No	12
South Hy/Isabella	Plan	Exploration	Gold	No	22
Hogum or Golden Eagle	Plan	Mining	Gold	No	10
Golden Butte	Plan	Mining	Gold	Yes	235
Pan Project	Plan	Exploration	Gold	No	30
Monte Exploration	Plan	Exploration	Gold	No	18
Ward Mine	Plan	Mining	Zinc	No	22
Easy Jr	Plan	Mining	Gold	Yes	247
MacArthur Mine	Plan	Mining	Copper	Yes	415
Northern Crown Mines	Plan	Exploration	Gold	No	4



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State and operation	Authority	Type of operation	Primary hardrock mineral	Heap-leaching	BLM acres
Maverick Springs	Plan	Exploration	Gold	No	13
Phil Claims Expl Proj	Plan	Exploration	Gold	No	23
Kinsley	Plan	Mining	Gold	Yes	350
County Line Project	Plan	Mining	Gold	Yes	130
Olinghouse Mine	Plan	Exploration; mining	Gold	Yes	447
Mina Mill	Plan	Other (custom mill)	Gold	No	20
Diamond Peak Prospect Mtn	New Notice	Exploration	Gold	No	1
Eldorado Pediment	New Notice	Exploration	Gold	No	1
Phoenix Metals USA II Inc.	Plan	Other (mill site)	Platinum group metals/gold	No	12
American Canyon KOF	New Notice	Exploration	Gold	No	1
Jumbo Mine	Plan	Mining	Gold	Yes	63
Relief Canyon Mine	Plan	Mining	Gold	Yes	295
Elder Creek	Plan	Mining	Gold	Yes	102
Gold Bar Resource Area	Plan	Exploration; mining	Gold	Yes	154
Atlas Exploration	Plan	Exploration	Gold	No	149
16: 1 Millsite	Plan	Mining	Silver	Yes	40
Gold Bar Mine	Plan	Exploration; mining	Gold	Yes	1,175
Paradise Peak	Plan	Mining	Gold	Yes	470
<b>Washington</b>					
Raven Hill Mining	Plan	Mining	Rare Earth Elements	No	10
Empire Creek Project	Plan	Exploration	Unknown	No	5
Lamefoot	Plan	Mining	Gold	No	5

Source: BLM survey responses.

<sup>a</sup>No acreage given.

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**Table 15: Key Dates for 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators**

<b>State</b>	<b>Operation began</b>	<b>Last plan of operation update</b>	<b>Last reclamation plan update</b>	<b>Last cost estimate update</b>	<b>Operation ceased</b>	<b>BLM cost estimate</b>
<b>Alaska</b>						
Chapman Creek Mining	7/1996	7/1996	Not applicable	No answer	1/1998	No answer
R D Environmental Mining	1/1992	7/1995	7/1995	No answer	1/1995	6/2003
Gold Hill Mining	2/1999	5/2000	No answer	No answer	5/2002	No answer
Nixon Fork Mine	1/1991	5/1999	No answer	No answer	1/1999	No answer
<b>Arizona</b>						
Tyro Mill	1/1980	2/2000	2/2000	2/2000	7/2002	No answer
Granite Property	1/1990	5/1990	5/1990	No answer	11/1990	No answer
Herring Mine	1/2002	6/2002	6/2002	6/2002	1/2002	No answer
SKOR	1/1984	3/1985	Not applicable	No answer	1/1991	6/2003
UFO	1/1982	5/1991	Not applicable	No answer	1/1991	3/2004
Ironwood Claim Group	1/1983	1/2003	No answer	No answer	1/2003	No answer
<b>California</b>						
Screech Owl	7/1981	8/1995	8/1995	No answer	8/1996	No answer
Nina	1/1988	5/1995	4/1988	4/1988	1/2001	9/2003
<b>Idaho</b>						
West One Minerals	3/1990	1/1991	No answer	No answer	4/1991	No answer
<b>Montana</b>						
Snowbound Placer	1/2003	6/2003	9/2003	6/2003	1/2003	No answer
Zortman & Landusky Mine	1/1981	2/1994	2/1994	6/1998	1/1999	8/2004
Zortman Exploration Plans	1/1981	1/1996	1/1996	8/1999	1/1998	8/1999
<b>Nevada</b>						
Adelaide Crown	6/1988	6/1991	3/1988	No answer	10/1991	No answer
Wildhorse Canyon	10/1989	3/1995	3/1995	3/1995	7/1999	6/2003
South Hy/Isabella	5/1988	5/1995	5/1995	5/1995	7/1999	6/2003
Hogum or Golden Eagle	1/1997	2/1989	2/1989	No answer	1/1999	No answer
Golden Butte	1/1986	9/1995	4/1993	4/1993	1/1999	8/2004

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<b>State</b>	<b>Operation began</b>	<b>Last plan of operation update</b>	<b>Last reclamation plan update</b>	<b>Last cost estimate update</b>	<b>Operation ceased</b>	<b>BLM cost estimate</b>
Pan Project	1/1989	9/1989	No answer	No answer	1/1999	No answer
Monte Exploration	1/1987	4/1993	4/1993	4/1993	1/1999	No answer
Ward Mine	1/1989	3/1993	11/1994	No answer	1/1999	No answer
Easy Jr	1/1987	5/1999	5/1999	5/1999	1/1999	8/2003
MacArthur Mine	9/1992	9/1995	5/1998	No answer	11/1997	No answer
Northern Crown Mines	12/1991	3/1993	Not applicable	12/1991	12/1993	No answer
Maverick Springs	7/1990	12/1990	Not applicable	No answer	7/1991	9/1993
Phil Claims Expl Proj	1/1982	10/1995	10/1995	10/1995	1/1998	No answer
Kinsley	1/1994	3/1997	1/1996	1/1996	1/2000	No answer
County Line Project	5/1991	1/1992	12/1994	1/1992	12/1995	No answer
Olinghouse Mine	5/1998	9/2002	9/2002	9/2002	5/1999	No answer
Mina Mill	11/1985	11/1994	11/1994	11/1994	6/1996	No answer
Diamond Peak Prospect Mtn	6/2001	8/2002	5/2001	5/2001	1/2003	No answer
Eldorado Pediment	8/2001	10/2001	10/2001	10/2001	10/2003	No answer
Phoenix Metals USA II Inc.	1/1997	12/2001	2/1999	9/1997	12/2001	11/2001
American Canyon KOF	1/2002	5/2002	Not applicable	5/2002	1/2002	No answer
Jumbo Mine	1/1983	6/1986	4/1986	No answer	1/1997	1/1998
Relief Canyon Mine	1/1995	5/1997	5/1994	5/1997	1/2001	No answer
Elder Creek	1/1989	10/2000	12/1995	2/1996	1/2000	No answer
Gold Bar Resource Area	12/1986	8/2004	9/2004	12/1994	12/1994	No answer
Atlas Exploration	1/1984	12/1994	9/2004	6/1994	1/1994	No answer
16: 1 Millsite	4/1981	3/1991	No answer	7/1991	6/1992	7/1992
Gold Bar Mine	1/1984	8/2004	9/2004	10/1994	1/1994	No answer
Paradise Peak	12/1995	5/1996	5/1996	11/1995	8/2003	No answer
<b>Washington</b>						
Raven Hill Mining	1/1995	6/1995	No answer	No answer	1/1996	No answer
Empire Creek Project	4/1997	4/1997	No answer	4/1997	Unknown	No answer
Lamefoot	1/1992	11/1991	No answer	No answer	1/2001	No answer

Source: BLM survey responses.

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**Table 16: BLM Steps to Compel Operators to Reclaim BLM Land Disturbed by 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators and the Reasons Operators Did Not Reclaim the Land**

<b>State and operation</b>	<b>BLM steps to compel reclamation</b>	<b>Operator did some reclamation</b>	<b>Reasons operators did not complete reclamation</b>
<b>Alaska</b>			
Chapman Creek Mining	Notice of noncompliance; other (sent letters)	No	Recently ceased; other (operator tried unsuccessfully to sell)
R D Environmental Mining	Notice of noncompliance	Some reclamation	Other (claimant had health problems)
Gold Hill Mining	Notice of noncompliance; other (issued enforcement order)	No	Bankruptcy
Nixon Fork Mine	Other (worked with solicitor re: bankruptcy)	Some reclamation	Bankruptcy
<b>Arizona</b>			
Tyro Mill	Other (issued orders)	No	Other (operator in violation of two orders)
Granite Property	No action	No	Unknown
Herring Mine	Notice of noncompliance; other (revoked plan)	Some reclamation	Bankruptcy
SKOR	No action	No	Bankruptcy
UFO	Other (tried to locate operator)	Some reclamation	Bankruptcy; other (operator failed to submit bond)
Ironwood Claim Group	Other (asked friends to do reclamation)	Some reclamation	Other (claimant died)
<b>California</b>			
Screech Owl	Notice of noncompliance	Some reclamation	Other (claimant had BLM reclaim using financial assurance funds)
Nina	Other (negotiated bond release & claim relinquishment)	Some reclamation	Bankruptcy; other (BLM reclaimed in exchange for forfeiture of claim)
<b>Idaho</b>			
West One Minerals	Notice of noncompliance; other (attached bond)	No	Bankruptcy
<b>Montana</b>			
Snowbound Placer	Notice of noncompliance; other (sent letters)	Some reclamation	Recently ceased; other (operator was busy but promised to reclaim)
Zortman & Landusky Mine	Other (filed bankruptcy claim & worked with state re: bond)	Some reclamation	Bankruptcy
Zortman Exploration Plans	Other (unsuccessfully tried to have financial assurance provider do work)	Some reclamation	Bankruptcy
<b>Nevada</b>			
Adelaide Crown	Notice of noncompliance	No	Bankruptcy
Wildhorse Canyon	Notice of noncompliance	No	Bankruptcy

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<b>State and operation</b>	<b>BLM steps to compel reclamation</b>	<b>Operator did some reclamation</b>	<b>Reasons operators did not complete reclamation</b>
South Hy/Isabella	Notice of noncompliance	No	Bankruptcy
Hogum or Golden Eagle	Other (legal procedures to obtain bond)	Some reclamation	Bankruptcy
Golden Butte	Other (legal procedures to obtain bond)	Some reclamation	Bankruptcy
Pan Project	Other (legal procedures to obtain bond)	Some reclamation	Bankruptcy
Monte Exploration	Other (legal procedures to obtain bond)	Some reclamation	Bankruptcy
Ward Mine	Other (legal procedures to obtain bond)	Some reclamation	Bankruptcy
Easy Jr	Other (legal procedures to obtain bond)	Some reclamation	Bankruptcy
MacArthur Mine	Notice of noncompliance	No	Bankruptcy; other (operator believes reclamation will affect sale)
Northern Crown Mines	Notice of noncompliance	No	Other (ceased operations in 1993; no BLM action since)
Maverick Springs	Other (sent letters)	Some reclamation	Other (civil action)
Phil Claims Expl Proj	Notice of noncompliance; other (sent letters & made phone calls)	Some reclamation	Other (operator would like to continue work, but has no funds)
Kinsley	No action	Some reclamation	Bankruptcy
County Line Project	Notice of noncompliance	No	Bankruptcy
Olinghouse Mine	Notice of noncompliance	No	Bankruptcy; other (financial assurance provider went bankrupt, but did some work)
Mina Mill	Notice of noncompliance	No	Other (operator died & spouse has no funds for reclamation)
Diamond Peak Prospect Mtn	Other (sent notice of expiration)	No answer	Unknown
Eldorado Pediment	Other (sent expiration letter)	No	Recently ceased operation
Phoenix Metals USA II Inc.	Other (civil action & obtained court order to seize property)	No	Other (operator died)
American Canyon KOF	Notice of noncompliance	No	Other (operator fled)
Jumbo Mine	Notice of noncompliance	Some reclamation	Bankruptcy
Relief Canyon Mine	Notice of noncompliance; other (revoked plan)	No	Other (another operator assumed responsibility)
Elder Creek	Other (sent letters)	No	Bankruptcy
Gold Bar Resource Area	Notice of noncompliance	No	Bankruptcy
Atlas Exploration	Notice of noncompliance	Some reclamation	Bankruptcy
16: 1 Millsite	No action	Some reclamation	Bankruptcy
Gold Bar Mine	Notice of noncompliance	No	Bankruptcy
Paradise Peak	Notice of noncompliance	No	Bankruptcy

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<b>State and operation</b>	<b>BLM steps to compel reclamation</b>	<b>Operator did some reclamation</b>	<b>Reasons operators did not complete reclamation</b>
<b>Washington</b>			
Raven Hill Mining	Notice of noncompliance	Some reclamation	Bankruptcy
Empire Creek Project	No action	Some reclamation	Bankruptcy; other (project languished and was never completed)
Lamefoot	Other (awaiting operator decision re: closure)	Some reclamation	No answer

Source: BLM survey responses.

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**Table 17: Estimated Reclamation Costs for 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators**

<b>State and operation</b>	<b>Operators cost estimate before operation ceased</b>	<b>BLM cost estimate after operations ceased</b>	<b>Actual cost or estimate of shortfall or funds needed to complete reclamation</b>	<b>Most recent reclamation cost estimate as of July 2004</b>
<b>Alaska</b>				
Chapman Creek Mining	No answer	No answer	No estimate	\$0
R D Environmental Mining	No answer	\$139,000	No estimate	\$139,000
Gold Hill Mining	No answer	No answer	\$500,000 needed to complete reclamation	\$500,000
Nixon Fork Mine	No answer	No answer	No estimate	\$0
<b>Arizona</b>				
Tyro Mill	\$47,023	\$800,000	\$300,000 needed to complete reclamation and \$800,000 actual	\$800,000
Granite Property	No answer	No answer	No estimate	\$0
Herring Mine	\$1,800	No answer	\$34,000 needed to complete and \$34,000 actual	\$34,000
SKOR	No answer	\$88,240	\$92,239 actual cost	\$92,239
UFO	\$24,000	\$18,000	No estimate	\$18,000
Ironwood Claim Group	\$200	No answer	No estimate	\$200
<b>California</b>				
Screech Owl	No answer	No answer	\$2,431 actual cost	\$2,431
Nina	\$5,000	\$15,000	No estimate	\$15,000
<b>Idaho</b>				
West One Minerals	\$12,000	No answer	No estimate	\$12,000
<b>Montana</b>				
Snowbound Placer	\$2,970	No answer	\$2,970 needed to complete and \$2,970 actual	\$2,970
Zortman & Landusky Mine	\$68,500,000	\$85,200,000	\$18,500,000 needed to complete and \$25,200,000 shortfall	\$85,200,000
Zortman Exploration Plans	\$299,043	\$299,043	No estimate	\$299,043
<b>Nevada</b>				
Adelaide Crown	No answer	No answer	No estimate	\$0



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**Operations That Had Ceased and Not Been**  
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*(Continued From Previous Page)*

<b>State and operation</b>	<b>Operators cost estimate before operation ceased</b>	<b>BLM cost estimate after operations ceased</b>	<b>Actual cost or estimate of shortfall or funds needed to complete reclamation</b>	<b>Most recent reclamation cost estimate as of July 2004</b>
Wildhorse Canyon	\$52,310	\$53,006	\$53,000 needed to complete	\$53,000
South Hy/Isabella	\$122,369	\$169,593	\$169,700 needed to complete	\$169,700
Hogum or Golden Eagle	No answer	No answer	No estimate	\$0
Golden Butte	\$328,942	\$1,397,000	\$400,000 needed to complete and \$1,068,000 shortfall	\$1,397,000
Pan Project	\$5,670	No answer	No estimate	\$5,670
Monte Exploration	\$7,395	No answer	No estimate	\$7,395
Ward Mine	\$141,500	No answer	No estimate	\$141,500
Easy Jr	\$365,917	\$668,936	\$100,000 needed to complete and \$400,000 shortfall	\$668,936
MacArthur Mine	No Answer	No answer	\$17,000,000 shortfall over \$47,000 funds relinquished	\$17,047,000
Northern Crown Mines	\$3,897	No answer	No estimate	\$3,897
Maverick Springs	No Answer	\$7,999	\$37,846 needed to complete	\$37,846
Phil Claims Expl Proj	\$28,556	No answer	No estimate	\$28,556
Kinsley	\$911,763	\$1,400,000	\$550,000 needed to complete and \$500,000 shortfall	\$1,400,000
County Line Project	\$837,356	No answer	No estimate	\$837,356
Olinghouse Mine	\$850,650	No answer	No estimate	\$850,650
Mina Mill	\$116,408	No answer	No estimate	\$116,408
Diamond Peak Prospect Mtn	\$6,500	No answer	No estimate	\$6,500
Eldorado Pediment	\$8,200	No answer	No estimate	\$8,200
Phoenix Metals USA II Inc.	\$45,904	\$100,000	\$30,000 needed to complete	\$100,000
American Canyon KOF	\$21,600	No answer	No estimate	\$21,600
Jumbo Mine	\$8,197	\$3,700	\$2,500 needed to complete	\$3,700

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<b>State and operation</b>	<b>Operators cost estimate before operation ceased</b>	<b>BLM cost estimate after operations ceased</b>	<b>Actual cost or estimate of shortfall or funds needed to complete reclamation</b>	<b>Most recent reclamation cost estimate as of July 2004</b>
Relief Canyon Mine	\$888,696	No answer	\$463,500 needed to complete	\$888,696
Elder Creek	\$256,062	No answer	No estimate	\$256,062
Gold Bar Resource Area	\$303,300	No answer	No estimate	\$303,300
Atlas Exploration	\$265,000	No answer	No estimate	\$265,000
16: 1 Millsite	\$124,017	\$458,000	No estimate	\$458,000
Gold Bar Mine	\$2,608,000	No answer	No estimate	\$2,608,000
Paradise Peak	\$5,461,537	No answer	\$20,000,000 shortfall over \$1,157,000 funds relinquished	\$21,157,000
<b>Washington</b>				
Raven Hill Mining	\$6,700	No answer	No estimate	\$6,700
Empire Creek Project	\$7,125	No answer	No estimate	\$7,125
Lamefoot	No answer	\$20,000	No estimate	\$20,000

Source: BLM survey responses.

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**Table 18: Types and Amount of Financial Assurances and the Amount of Financial Assurances Relinquished and Spent on Reclamation of 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators**

State and operation	Financial assurance	Types and amount of financial assurances	Types and amount relinquished	Types and amount spent
<b>Alaska</b>				
Chapman Creek Mining	Yes	Bond pool - no value reported	None relinquished	Not applicable
R D Environmental Mining	Yes	Bond pool - \$139,000	None relinquished	Not applicable
Gold Hill Mining	Yes	Bond pool - \$15,000	None relinquished	Not applicable
Nixon Fork Mine	Yes	Bond pool - no value reported	None relinquished	Not applicable
<b>Arizona</b>				
Tyro Mill	No	No financial assurances	Not applicable	Not applicable
Granite Property	Yes	Surety bond - \$2,000	None relinquished	Not applicable
Herring Mine	No	No financial assurances	Not applicable	Not applicable
SKOR	No	No financial assurances	Not applicable	Not applicable
UFO	No	No financial assurances	Not applicable	Not applicable
Ironwood Claim Group	Yes	Cash - \$200	Cash - \$200	Cash - \$200
<b>California</b>				
Screech Owl	Yes	Certificate of deposit - \$2,431	Certificate of deposit - \$2,431	Certificate of deposit - \$2,431
Nina	Yes	Certificate of deposit - \$5,000	None relinquished	Not applicable
<b>Idaho</b>				
West One Minerals	Yes	Letter of credit - \$12,000	Letter of credit - \$12,000	Letter of credit - \$12,000
<b>Montana</b>				
Snowbound Placer	Yes	Cash - \$2,970	None relinquished	Not applicable
Zortman & Landusky Mine	Yes	Surety bond - \$43,500,000; other - \$14,300,000	Surety bond - \$31,200,000 other - \$2,000,000	Surety bond - \$31,200,000 other - \$1,800,000
Zortman Exploration Plans	Yes	Surety bond - \$299,043	None relinquished	Not applicable
<b>Nevada</b>				
Adelaide Crown	No	No financial assurances	Not applicable	Not applicable
Wildhorse Canyon	Yes	Bond pool - \$12,000	None relinquished	Not applicable
South Hy/Isabella	Yes	Bond pool - \$22,000	None relinquished	Not applicable

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<b>State and operation</b>	<b>Financial assurance</b>	<b>Types and amount of financial assurances</b>	<b>Types and amount relinquished</b>	<b>Types and amount spent</b>
Hogum or Golden Eagle	Yes	Surety bond - \$24,000	Surety bond - \$24,000	Surety bond - none
Golden Butte	Yes	Surety bond - \$328,942	Surety bond - \$328,942	Surety bond - none
Pan Project	Yes	Surety bond - \$5,670	Surety bond - \$5,670	Surety bond - none
Monte Exploration	Yes	Surety bond - \$7,395	Surety bond - \$7,395	Surety bond - none
Ward Mine	Yes	Surety bond - \$141,500	Surety bond - \$141,500	Surety bond - none
Easy Jr	Yes	Surety bond - \$365,917	Surety bond - \$365,917	Surety bond - none
MacArthur Mine	Yes	Surety bond - \$47,000; corporate guarantee - \$137,300	Surety bond - \$47,000; corporate guarantee - none	Surety bond-none; corporate guarantee-not applicable
Northern Crown Mines	Yes	Cash - \$3,897	None relinquished	Not applicable
Maverick Springs	No	No financial assurances	Not applicable	Not applicable
Phil Claims Expl Proj	Yes	Bond pool - \$28,556	None relinquished	Not applicable
Kinsley	Yes	Surety bond - \$911,763	Surety bond - \$911,763	Surety bond - \$561,763
County Line Project	Yes	Surety bond - \$210,000; corporate guarantee - \$628,017	Surety bond - \$210,000; corporate guarantee – none relinquished	Surety bond-none <sup>a</sup> Corporate guarantee-not applicable
Olinghouse Mine	Yes	Surety bond - \$1,800,000	None relinquished	Not applicable
Mina Mill	No	No financial assurances	Not applicable	Not applicable
Diamond Peak Prospect Mtn	Yes	Letter of credit - \$6,500	None relinquished	Not applicable
Eldorado Pediment	Yes	Surety bond - \$8,200	None relinquished	Not applicable
Phoenix Metals USA II Inc.	Yes	Surety bond - \$45,904	None relinquished	Not applicable
American Canyon KOF	Yes	Surety bond - \$5,314	None relinquished	Not applicable
Jumbo Mine	Yes	Certificate of deposit - \$10,000	Certificate of deposit - \$4,323	Certificate of deposit - \$1,800
Relief Canyon Mine	No	No financial assurances	Not applicable	Not applicable
Elder Creek	Yes	Surety bond - \$256,062	Surety bond - \$256,062	Surety bond - none
Gold Bar Resource Area	Yes	Surety bond - \$303,300	None relinquished	Not applicable
Atlas Exploration	Yes	Surety bond - \$267,000	None relinquished	Not applicable
16: 1 Millsite	Yes	Bond pool - \$124,017	None relinquished	Not applicable
Gold Bar Mine	Yes	Surety bond - \$2,608,000	None relinquished	Not applicable

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<b>State and operation</b>	<b>Financial assurance</b>	<b>Types and amount of financial assurances</b>	<b>Types and amount relinquished</b>	<b>Types and amount spent</b>
Paradise Peak	Yes	Surety bond - \$1,157,000; corporate guarantee - \$3,468,148	Surety bond - \$1,157,000; corporate guarantee-none relinquished	Surety bond-none; corporate guarantee-not applicable
<b>Washington</b>				
Raven Hill Mining	No	No financial assurances	Not applicable	Not applicable
Empire Creek Project	No	No financial assurances	Not applicable	Not applicable
Lamefoot	Yes	Surety bond - \$3,000,000	None relinquished	Not applicable

Source: BLM survey responses.

<sup>a</sup>BLM told us in February 2005 that, as of December 2004, some of the surety bond funds had been obligated to review and determine reclamation design and costs.

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**Table 19: Sources of Other Funds and the Status of Reclamation of 48 Hardrock Operations That Had Ceased and Not Been Reclaimed by Operators**

State and operation	Sources and amount of funds received from others	BLM made arrangements for the financial assurance provider to do the reclamation	Percent of reclamation complete	Likelihood reclamation will be completed
<b>Alaska</b>				
Chapman Creek Mining	None	No answer	96-99%	Very likely
R D Environmental Mining	BLM - \$65,000	No answer	86-95%	Very likely
Gold Hill Mining	None	No answer	None	Somewhat likely
Nixon Fork Mine	None	No answer	26-50%	Very likely
<b>Arizona</b>				
Tyro Mill	BLM - \$517,088	No answer	76-85%	Very likely
Granite Property	None	No answer	None	About as likely as unlikely
Herring Mine	BLM - \$34,000	No answer	None	Very likely
SKOR	BLM - \$92,000	No answer	100%	Not applicable-reclamation complete
UFO	BLM - \$35,110	No answer	76-85%	Somewhat likely
Ironwood Claim Group	None	Yes	100%	Not applicable - reclamation complete
<b>California</b>				
Screech Owl	None	No	100%	Not applicable - reclamation complete
Nina	BLM - \$15,000	No answer	100%	Not applicable - reclamation complete
<b>Idaho</b>				
West One Minerals	None	No	100%	Not applicable - reclamation complete
<b>Montana</b>				
Snowbound Placer	None	No	1-25%	Somewhat unlikely
Zortman & Landusky Mine	BLM - \$5,594,500; <sup>a</sup> operator - \$1,050,000; EPA - \$340,000; MT DEQ - \$1,697,000	No	86-95%	Very likely
Zortman Exploration Plans	None	Yes	76-85%	Very likely
<b>Nevada</b>				
Adelaide Crown	None	No answer	1-25%	Very unlikely

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<b>State and operation</b>	<b>Sources and amount of funds received from others</b>	<b>BLM made arrangements for the financial assurance provider to do the reclamation</b>	<b>Percent of reclamation complete</b>	<b>Likelihood reclamation will be completed</b>
Wildhorse Canyon	None	No answer	None	About as likely as unlikely
South Hy/Isabella	None	No answer	None	About as likely as unlikely
Hogum or Golden Eagle	None	No	1-25%	Very likely
Golden Butte	U.S. Army Corps of Engineers - \$600,000	No	51-5%	Very likely
Pan Project	None	No	96-99%	Very likely
Monte Exploration	None	No	96-99%	Very likely
Ward Mine	None	No	1-25%	Very likely
Easy Jr	BLM - \$300,000; U.S. Army Corps of Engineers - \$171,000	No	51-75%	Very likely
MacArthur Mine	None	No	None	Very unlikely
Northern Crown Mines	None	No Answer	Do not know	Very unlikely
Maverick Springs	None	No Answer	Do not know	Somewhat likely
Phil Claims Expl Proj	None	Yes	None	Very likely
Kinsley	None	No	51-75%	Very likely
County Line Project	None	No	26-50%	Very unlikely
Olinghouse Mine	None	Yes	86-95%	Very unlikely
Mina Mill	None	No answer	None	About as likely as unlikely
Diamond Peak Prospect Mtn	None	No answer	Do not know	Very likely
Eldorado Pediment	None	No	None	Very likely
Phoenix Metals USA II Inc.	BLM - \$50,000	No answer	76-85%	Very likely
American Canyon KOF	None	No answer	None	About as likely as unlikely
Jumbo Mine	None	No	96-99%	Very likely
Relief Canyon Mine	None	No answer	26-50%	Somewhat unlikely
Elder Creek	None	Yes	1-25%	Very likely



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<b>State and operation</b>	<b>Sources and amount of funds received from others</b>	<b>BLM made arrangements for the financial assurance provider to do the reclamation</b>	<b>Percent of reclamation complete</b>	<b>Likelihood reclamation will be completed</b>
Gold Bar Resource Area	None	Yes	None	Somewhat likely
Atlas Exploration	None	Yes	1-25%	Somewhat likely
16: 1 Millsite	None	No answer	1-25%	Somewhat unlikely
Gold Bar Mine	None	Yes	None	Somewhat likely
Paradise Peak	None	No	None	Very likely
<b>Washington</b>				
Raven Hill Mining	BLM - \$2,500	No answer	26-50%	Very unlikely
Empire Creek Project	None	No answer	Do not know	No answer
Lamefoot	None	No answer	1-25%	Very likely

Source: BLM survey responses.

<sup>a</sup>Lewistown Montana BLM field office officials told us that BLM provided an additional \$550,000 after July 2004 and before September 2004.

# Comments from the Department of the Interior

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



## United States Department of the Interior

OFFICE OF THE SECRETARY  
Washington, D.C. 20240



In Reply Refer To:  
1245 (830)

JUN 8 2005

Ms. Robin M. Nazzaro  
Director, Natural Resources and Environment  
Government Accountability Office  
441 G Street, NW  
Washington, DC 20548-0001

Dear Ms. Nazzaro:

Thank you for the opportunity to respond to the U.S. Government Accountability Office (GAO) Draft Report, *Hardrock Mining - BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs* (GAO-05-377).

The draft report captures many of the demands facing the Mining Law Administration, Surface Management Program of the Bureau of Land Management (BLM) related to managing financial guarantees required for operations authorized under the General Mining Law of 1872, as amended (Mining Law). Following are our responses to the recommendations and some suggested changes within the report.

### Responses to the Recommendations:

**Recommendation #1:** *We recommend that the Secretary of the Interior direct the Director of BLM to require the BLM state office directors to establish an action plan for ensuring that operators of hardrock operations have required financial assurances, and that the financial assurances are based on sound reclamation plans and current cost estimates so they are adequate to pay all of the estimated costs of required reclamation if operators fail to complete the reclamation.*

Existing procedures and policies ensure financial guarantees are in place to protect the public should an operator fail to reclaim. The regulations at 43 CFR 3809 require the operator to provide a financial guarantee that covers the full reclamation cost for the operation. The regulations also require the BLM to conduct a periodic review of the reclamation cost estimate and the financial guarantee. BLM issued guidance on February 5, 2003 (IM 2003-082) on the review and acceptance of financial guarantee cost estimates for Notices and Plans of Operations under the 43 CFR 3809 Surface Management regulations. This guidance was updated on March 1, 2004 (IM 2003-082, Change 1). The guidance provides specific timeframes within which reclamation cost estimates must be reviewed for adequacy. The guidance requires: cost estimates for Notices are to be reviewed at time of extension (every two years); reclamation cost estimates for Plans of Operations are to be reviewed at least every three years; financial

See comment 1.

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guarantees for part of an operation are to have the cost estimate reviewed annually; anytime an operation is modified, the cost estimate for the entire operation is to be reviewed; and if there is an agreement with the State dealing with financial guarantees and the State has review timeframes more stringent than the BLM's, the State's more stringent timeframe must be met.

Ensuring that the financial guarantees for operations authorized under the Mining Law meet the requirements of the regulations are a priority of the BLM's Surface Management Program. The importance of having adequate financial guarantees in place for all operations is stressed through the budget process and in directives issued by the BLM-Washington Office and State Offices.

In summary, we do not concur with this recommendation because the BLM has recently updated and implemented national policy and field guidance to ensure bond adequacy.

**Recommendation #2:** *We recommend that the Secretary of the Interior direct the Director of BLM to modify LR2000 to ensure that it tracks critical information on hardrock operations and associated financial assurances so that BLM headquarters and state offices can effectively manage financial assurances nationwide to ensure regulatory requirements are met.*

The BLM tracks all critical information on authorized operations in LR2000, which include case recordation and the bond and surety systems. BLM issued Instruction Memorandum No. 2005-126 on April 29, 2005 to provide guidance and direction on data standards for LR2000. Recently, the BLM added codes and edits to LR2000 for Plans of Operations, environmental analyses, financial guarantees and appeals. The BLM will continue to refine and enhance LR2000 data systems as needed to facilitate the surface management program.

**Suggested changes within the report:**

**Report title:** Consider changing the report title to *BLM Needs to Better Manage Financial Assurances "that" Guarantee Coverage of Reclamation Costs*.

**Page 3, 2<sup>nd</sup> paragraph, after last sentence add:** Plans of Operations that were approved on or before January 20, 2001, were required to have financial guarantees in place that met the requirements of the regulations on November 20, 2001.

**Page 4, 1<sup>st</sup> paragraph, revise sentence from** "... give BLM authority to take steps, such as issuing notices of noncompliance and revoking plans of operations" to "...give BLM authority to take steps, such as issuing noncompliance and suspension orders, and revoking plans of operations..." We suggest this because the previous regulations (43 CFR 3809, October 1, 2000) used the term "notice of noncompliance." The current regulations use the term "noncompliance and suspension orders."

See comment 2.

See comment 3.

See comment 4.

See comment 5.

Now on pp. 3 and 4.

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See comment 6.

**Page 5, 1st paragraph, 2nd sentence** "...with operations identified by others": If possible, identify GAO's "others."

See comment 7.

**Page 11, Figure 2 footnote:** If possible, identify "others."

See comment 8.

**Page 11, Figure 2:** Remove Step 5. The reason we suggest removal of the step is the operation described in the figure is employing a heap-leaching process. However, the described operation includes a tailings pile. There are no tailings in heap-leaching operations. Tailings piles are associated with operations that employ milling and flotation.

See comment 9.

**Page 12, 2<sup>nd</sup> paragraph, 2nd sentence, change to read:** Upon recording a mining claim with BLM, the claimant must pay, per claim, an initial location fee, and a maintenance fee that is required annually; the claimant is not required to pay royalties on any hardrock minerals extracted.

See comment 10.

**Page 20, 1<sup>st</sup> paragraph:** To clarify this paragraph please include the following: Approved operations on notices and plans of operations are subject to the claimant or operator filing and obtaining approval of the financial guarantee instrument from BLM in accordance with regulations and policy.

See comment 11.

**Page 21, paragraph:** For consistency with information on page 20, add "notice- and plan-level" before "...hardrock operations...."

See comment 12.


**Page 63, Conclusions:** We disagree with the 4th sentence that reads "BLM has no process in place to ensure that operators obtain adequate financial assurance." As stated under Recommendation #1, the BLM process as mandated in regulations and guidance adequately addresses the financial obligations of an operator for notice-level and plan-level hardrock mining operations. In addition, we do not agree with the sentence "Specifically, LR2000 does not track the status of hardrock operations...." As noted under our response to Recommendation 2, BLM tracks all critical information on authorized operations in the LR2000 database.

Now on page 65.

See comment 13.

We appreciate the advice and critical assessment the GAO has given to BLM's Mining Law Administration, Surface Management Program. If you have any questions, please contact Ted Murphy, Chief, Division of Solid Minerals, at 202-452-0351, or Andrea Nygren, BLM Audit Liaison Officer, at 202-452-5153.

Sincerely,

  
Rebecca W. Watson  
Assistant Secretary  
Land and Minerals Management

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The following are GAO's comments on the Department of the Interior's letter dated June 8, 2005.

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**GAO Comments**

1. See agency comments and our evaluation section of this report.
2. See agency comments and our evaluation section of this report.
3. We did not change the title of the report because doing so would indicate that adequate financial assurances are in place to guarantee reclamation costs. As we report, this is not the case.
4. We added a sentence to state that plans of operations that were approved before January 20, 2001, were required to have financial assurances in place no later than November 20, 2001.
5. We changed the language to state that BLM has the authority to take steps, such as issuing noncompliance and suspension orders or revoking plans of operations, if operators do not comply with financial assurance or other regulatory requirements.
6. The "other" sources of information on hardrock operations that had ceased and not been reclaimed, as required, are identified in appendix I.
7. We added the National Research Council as one of the other sources used to develop figure 2.
8. We removed step 5, which described leftover material known as tailings, from figure 2.
9. We changed the language to clarify that upon recording a mining claim with BLM, the claimant must pay the fees discussed in our report, and that the location fee is not paid annually.
10. We did not add this language to this section of the report because we explain in the background section of the report that BLM requires all notice- and plan-level hardrock operations to have financial assurances before exploration or mining operations begin.
11. We clarified the language by adding "notice- and plan-level" before hardrock operations.

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12. We clarified this sentence in our conclusion to state that “However, while federal regulations and BLM guidance set forth financial assurance requirements for notice- and plan-level hardrock mining operations, BLM has no process for ensuring that the regulations and guidance are effectively implemented to ensure that adequate financial assurances are in place, as required.” Our report shows that BLM state offices with hardrock operations reported that, as of July 2004, some hardrock operations did not have adequate financial assurances. Furthermore, past experience has shown that some hardrock operations have ceased without operators having the adequate financial assurances required by regulations and BLM guidance. We continue to believe that until BLM establishes monitoring and accountability mechanisms to ensure that all hardrock operations have required financial assurances based on sound plans and current cost estimates, these problems will continue.
13. We did not change this sentence in our conclusion because evidence in our report shows that LR2000 does not track the critical information BLM needs to effectively manage financial assurances on hardrock operations. Specifically, we reported that LR2000 does not track some critical information, including the operation’s basic status, such as whether the operation is ongoing or has ceased and should be reclaimed; some types of financial assurances being used, such as corporate guarantees, bond pools, and trust funds; and the adequacy of financial assurances to pay the cost of required reclamation.

# GAO Contact and Staff Acknowledgments

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## GAO Contact

Robin M. Nazzaro (202) 512-3841

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## Acknowledgments

In addition to the contact named above, Andrea Wamstad Brown, Byron S. Galloway, Heather Holsinger, Carol Herrnsstadt Shulman, Walter Vance, and Amy Webbink made key contributions to this report.



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Washington, D.C. 20548

# **EXHIBIT 11**

# Final Report

## ***Superfund Subcommittee*** of the National Advisory Council for Environmental Policy and Technology

April 12, 2004

*This is the Final Report of the Superfund Subcommittee of the National Advisory Council for Environmental Policy and Technology. The Subcommittee has completed its deliberations and its charter has ended. This final Subcommittee report has been transmitted in draft to the NACEPT Council for the Council's consideration.*

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*Final Report*

**Superfund Subcommittee of the National Advisory  
Council for Environmental Policy and Technology**

**ES Executive  
Summary**

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This report was prepared as a result of a request from the EPA Administrator to help identify the future direction of the Superfund Program. This effort was conducted by the Superfund Subcommittee of the EPA National Advisory Council for Environmental Policy and Technology over a period of 22 months. The Subcommittee first met in June 2002 and completed this Final Report in March 2004.

Members of the Subcommittee consisted of 32 senior-level individuals from academia, business, and industry; community and environmental advocacy groups; federal, state, local, and Tribal organizations; and environmental justice, nongovernmental, and professional organizations. The Subcommittee was specifically asked to consider the role of the Superfund Program's National Priorities List (NPL), how best to address mega Superfund sites, and approaches that can be used to measure the Program's performance and progress. During the Subcommittee's deliberations, a number of additional important issues arose. These issues are identified and discussed in Chapter VI of this report.

The Subcommittee met nine times between June 2002 and March 2004. The original term of the Subcommittee members was to be from May 2002 to December 2003. That term was extended to March 31, 2004, by Acting EPA Administrator Marianne Horinko to allow the Subcommittee adequate time to complete its discussions and deliberations and this Final Report

EPA ex officio Subcommittee members participated in discussions at meetings and in conference calls to clarify current procedures, provide background and updates on the Superfund Program, and, where appropriate, provide insights into the practical implications of implementing recommendations being considered by the Subcommittee. EPA representatives did not participate in the Subcommittee's final decision making. The

Agency also supported Subcommittee deliberations by making staff available to present informational briefings and provide relevant information to the Subcommittee. The Agency also provided the Subcommittee with professional facilitators (a partnership of Meridian Institute and Ross and Associates Environmental Consulting) who assisted the Subcommittee throughout its deliberations by facilitating meetings, developing meeting summaries and developing the draft documents and reports that were reviewed by the Subcommittee members at the public meetings. While the facilitators prepared the various reports, the statements in this Final Report represent the views of the Subcommittee itself.

In developing this report, Subcommittee members discussed their views on many complex and interrelated issues. This Final Report is an integrated package that represents the Subcommittee's best effort to formulate consensus recommendations and to present differing views on the complex issues considered by the Subcommittee. The divergent views were included in the report in an effort to provide value and be responsive to the requests of the Agency. In her remarks made at the Superfund Subcommittee's September 3, 2004, meeting in Washington, D.C., Assistant Administrator Marianne Horinko indicated that, in the absence of consensus on difficult issues, the Agency was interested in receiving clearly articulated details of the strongly held, divergent views on issues that the Subcommittee discussed but could not reconcile.

Between Subcommittee meetings, small working groups of Subcommittee members spent countless hours interacting via conference calls, through e-mail, and in face-to-face meetings to continue deliberations and develop options and recommendations for consideration by the full Subcommittee. Thus, this report has resulted from continual, serious, and often intense discussion of these complex issues.

The report was developed through a cooperative drafting process and an open review process. Many individuals contributed text to the seven report drafts, and all members were asked to comment on the drafts through a variety of mechanisms. Each version of the report attempted to blend the range of individual comments submitted into a narrative that reflected the perspective of the Subcommittee as a whole. This Final Report is not a compilation of individual views. The Subcommittee worked to reach the greatest degree of consensus possible among the wide range of views reflected in its membership. Consensus was defined as "an outcome that everyone can live with," though aspects of any particular finding or recommendation may not be the first choice of individual members. When consensus was not reached, this Final Report describes the range of views held by Subcommittee members.

As indicated, the deliberations throughout the 22 months of Subcommittee discussion revealed a range of views regarding some topics associated with the charge. Although the members worked very hard to formulate consensus recommendations on all of the issues addressed in this report, consensus recommendations on every topic could not be reached. In such situations, the differing views are presented as accurately as possible to fairly reflect the deliberations and range of opinions. In addition, if Subcommittee members wanted to provide additional clarification or elaboration, they had the option of indicating their support for or disagreement with a particular recommendation or

discussion through a footnote or a three-page individual statement. The individual or joint statements submitted by 21 of the Subcommittee members are included in Attachment A.

Except as noted, all members of the Subcommittee agree with the consensus recommendations in this Final Report. Issues on which consensus could not be reached are noted in this Executive Summary, but readers should consult the full report for a summary of the Subcommittee's views on those issues. On a number of issues, Subcommittee members held fundamentally different views. The Subcommittee urges readers to go beyond the major recommendations, and read the comments, logic, and differing views provided to sharpen the focus and dialogue concerning the effectiveness of the Superfund Program.

Because the issues addressed in this report are complex, have many important facets, and affect different parts of society in varying ways, they will be the focus of continuing dialogue. However, the goal of all parties interested in and affected by the Superfund Program is the need to reduce the risks to human health and the environment associated with Superfund sites. The Subcommittee trusts that the information and advice in this report will help the Agency and the nation achieve this goal.

While this report was prepared with the assumption that EPA is its primary audience, many others should be interested in the report, such as Congress, other governmental entities, environmental and community groups, Tribal Nations, industry, and the public. The Subcommittee looks forward to EPA's and other interested parties' serious consideration of the report's discussions, views, advice and recommendations.

In addition to chapters providing background and introductory information, the report has three chapters that contain the Subcommittee's recommendations according to the three main issues outlined in EPA's charge (use of the NPL, mega sites, and performance measures) and a final chapter that contains recommendations on additional important issues discussed by the Subcommittee. The recommendations in these chapters should not be considered in isolation; they are a package. To emphasize the interconnectedness of the Subcommittee's recommendations, they are grouped in this Executive Summary in terms of the following five major themes:

### **Increase the Transparency and Rigor of EPA Decision Making**

EPA has the responsibility to make difficult choices about site cleanup. If a site is listed on the NPL, choices about remedy selection and implementation are made in the context of the open, public process associated with NPL cleanups. Choices about how many and what types of sites to list on the NPL and choices about which NPL sites receive Superfund money to pay for site evaluation and cleanup also need to be made in a transparent fashion.



Awareness and understanding of these difficult decisions serve EPA, officials at other levels of government, Tribal Nations, affected communities, and potentially responsible parties (PRPs). EPA must recommit to its existing coordinating practices and reach out effectively to affected communities and PRPs.

The Subcommittee makes six recommendations to increase the rigor and transparency of EPA decision making:

- ➔ EPA should apply a set of consistent factors from year to year to choose which NPL-eligible sites to propose for listing in each listing cycle. (Recommendation 1.)
- ➔ EPA should work with stakeholders to review the application of the hazard ranking system (HRS) model to ensure that it (1) accurately characterizes threats at sites located in sparsely populated areas and appropriately considers environmental justice concerns, traditional lifestyles, and other issues; and (2) uses site-specific data that EPA determines are available and reliable rather than defaulting to presumptions in the HRS to estimate exposures. (Recommendation 4.)
- ➔ EPA should improve the information and data on the Superfund Program and publish an annual report that presents key data on the Program, including Program progress and expenditures, anticipated costs, a summary of sites considered for listing, and the listing decisions and criteria applied. (Recommendation 5.)
- ➔ EPA should establish standard protocols to ensure that regional offices publicly communicate available information on site conditions and current and potential future threats to humans and the environment: (A) when a site is dropped from the Superfund site assessment process; and (B) when an NPL- candidate site is not proposed for NPL listing. (Recommendation 6)
- ➔ EPA should develop a system to track, evaluate and increase the effectiveness and the performance of land-use controls and long-term stewardship at NPL sites(Recommendation 16)
- ➔ EPA's strategy for Superfund Alternatives Sites (SASs) should remain a small pilot program until significantly more input is received from a broad range of perspectives, and an independent body produces for public review and comment a report describing the extent and performance of the SAS program and its compliance with the Comprehensive Environmental Response, Compensation and Liability Act. (Recommendation 17)

The Subcommittee also discussed, but did not reach consensus on, specific factors that EPA might consider to determine which NPL-eligible sites to propose for listing on the NPL, and the role that estimates of cleanup cost and Program funding should play in NPL listing decisions.

In addition, the Subcommittee held strong and divergent views about the role that risk should play in decisions about the types of sites that are eligible for the NPL and management and cleanup of listed sites.

## **Spend Resources Wisely**

Both public and private resources available for environmental cleanups are not unlimited. A consistent theme during the Subcommittee's deliberations was the need for the Superfund Program to use its resources wisely. In this context, the Subcommittee discussed, but did not reach consensus on, leveraging resources from non-Superfund programs, setting priorities for funding among sites listed on the NPL, whether resources should be shifted to removals and remedial actions and away from other Agency activities, auditing Superfund spending trends with a view towards identifying efficiencies, contract reforms, financial assurances, and the role of prevention relative to the Superfund Program.

In addition, the Subcommittee vigorously debated and has strongly held and divergent views about whether the Superfund Program should receive a temporary, limited supplemental appropriation to address the backlog of remedial actions that are ready for construction.

## **Expand Efforts at Coordination and Collaboration**

EPA must coordinate effectively with a wide range of partners for the Superfund Program to be effective. Decisions about how to best address a contaminated site are site-and community-specific. No two sites or communities present the same set of challenges or imperatives. Increased coordination and collaboration will bring forward important information about actual and potential releases, the potential use of other environmental programs, and community-specific concerns and priorities. This information, and the involvement of stakeholders, will help EPA make better, more informed and inclusive, decisions about sites.

The Subcommittee makes five recommendations related to coordination and collaboration.

- ➔ EPA regional offices should continue and improve collaboration with states, local governments, and Tribal nations as they consider which sites to recommend to EPA headquarters for NPL listing. (Recommendation 2)
- ➔ EPA should reach out to potentially affected communities, local governments, and potentially responsible parties earlier in the Superfund site assessment process to share and solicit information about sites being considered for NPL listing. (Recommendation 3)
- ➔ EPA should (A) ensure that regional offices have knowledge and understanding of the capabilities and applicability of non-Superfund programs; (B) develop relationships with key managers in other programs, particularly federal programs, to facilitate coordination; and (C) promote greater standardization of coordinating mechanisms, particularly for large, complex sites. (Recommendation 7.)

- ➔ EPA should continue to invest in capacity building for state and Tribal cleanup programs. (Recommendation 8)
- ➔ EPA should improve its cooperative relationship with the Agency for Toxic Substances and Disease Registry (ATSDR). EPA, in coordination with ATSDR, should make a concerted effort to work with affected communities, states, and Tribal nations to regularly identify, on a site-specific and nationwide basis, projects and research efforts that would be most helpful in determining adverse health effects posed by releases of hazardous substances, thereby informing decisions related to NPL listings, investigations, and remedy selection and implementation. EPA should include recommendations both in proactive suggestions for projects, and in reactive comments on ATSDR proposed projects. ATSDR's responsiveness to these recommendations should be included in EPA's (annual) reporting. (Recommendation 13)
- ➔ EPA should establish a transparent and cooperative relationship with the National Institute of Environmental Health Sciences (NIEHS) to provide recommendations and rationale for research, and to become educated on the efforts and findings of NIEHS. In so doing, EPA Site Managers and Community Involvement Coordinators should be educated as to the resources available from NIEHS (and ATSDR) and should always inform the community of these resources. (Recommendation 14)
- ➔ EPA, working with ATSDR and NIEHS, should convene a national dialogue on the roles of ATSDR and NIEHS in the Superfund Program. (Recommendation 15)

The Subcommittee also discussed, but did not reach consensus on the circumstances under which non-Superfund programs should be used at NPL-eligible sites, the expansion of technical assistance grants to certain NPL-eligible sites that are not proposed for the NPL, and the need for a national-level dialogue to address effective community involvement and issues unique to federal facilities.

### **Expensive Cleanups Deserve Special Attention**

In many ways, mega sites present the same types of challenges posed by other NPL sites, except that the high cost of mega site cleanups means that decisions about how to best address them have greater impacts on the Superfund budget. Subcommittee members had widely divergent views about whether mega sites warranted a fundamentally different cleanup approach than that currently provided by the Superfund Program. These views are described briefly in Chapter IV of the report. However, even in the context of these divergent views, the Subcommittee agreed that when mega sites are addressed by the Superfund Program, they warrant special attention. The Subcommittee makes one recommendation related to the management of mega site clean ups: EPA should establish practices that result in mega sites' receiving the necessary resources and attention from senior Agency managers. (Recommendation 9)

The Subcommittee also discussed, but did not reach consensus on, whether EPA should consider carrying out an expanded site inspection/remedial investigation at large complex sites and how EPA should best make decisions about large geographic areas.

## **Measure and Communicate Progress and Performance Comprehensively**

It is an axiom that what is measured is done. This means that measurements of the progress and performance of the Superfund Program should illustrate the Program's core purpose. However, measures currently used by the Superfund Program, such as "construction complete" tell only part of the story. The Subcommittee makes three recommendations about improving measures of Program progress.

- ➔ EPA should apply the following National Priority Measures to its national-level reporting requirements:
  - > number of sites with all final remedies selected,
  - > number of construction completions at the site level,
  - > percentage of construction completions at the operable unit level, and
  - > number of sites deleted from the NPL (Recommendation 10).
- ➔ EPA should continue with its efforts to develop and implement a system to ensure clear, transparent dissemination of a core set of data for all NPL sites and Superfund Program activities. (Recommendation 11)
- ➔ EPA should develop measures of performance that assess the effectiveness of Agency coordination with Tribal, state and local governments and community stakeholders. (Recommendation 12)

Finally, Attachment A contains the three-page comment papers submitted by Subcommittee members to elaborate on their individual perspectives and the Appendices contain supporting documents and elaboration on the topics addressed in the body of the report.

## **VI. Additional Priority Issues**

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As indicated earlier, the Subcommittee was established to help EPA shape the future of the Superfund Program by providing advice on the role of the National Priorities List (NPL), how to manage mega sites, and how to measure the Program's progress and performance. During their deliberations, the Subcommittee members identified several additional issues that they felt are important to the success of the Superfund Program and should receive serious consideration by EPA and others interested in the Program. In some cases, the topics were beyond the Subcommittee's ability to fully deliberate or reach consensus on within the time available. In other cases, some Subcommittee members thought that the topics were outside of their areas of expertise. Despite these limitations, the Subcommittee wanted to bring these issues to the attention of those interested in the Superfund Program and believe they should be part of the continuing dialogue about the Program. In some cases, consensus recommendations have been developed to address these issues, and in other cases the Subcommittee was unable to reach consensus and therefore offers a range of views on the following:

- ➔ Emphasizing prevention;
- ➔ Ensuring adequate financial assurances;
- ➔ Examining the roles of the Agency for Toxic Substances and Disease Registry; (ATSDR) and the National Institute of Environmental Health Sciences (NIEHS);
- ➔ Increasing the effectiveness of land-use controls and long-term stewardship;
- ➔ Determining the need for input on the Superfund Alternatives Sites; and
- ➔ Continuing the discussion of important national issues
  - > Issues unique to cleanup at federal facilities and
  - > Effective community involvement.

### **Deliberations on Emphasizing Prevention**

The topic of pollution prevention was not specifically part of the Subcommittee's Charge. However, some members of the Subcommittee believed that this topic was relevant to address in the report because of its focus on sites that could be considered for the NPL and the desire to prevent the need for major cleanup at facilities in the future. While all members held a common interest in preventing the creation of new Superfund sites, some felt that the Resource Conservation and Recovery Act (RCRA), rather than the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),

was the appropriate statutory authority and that given CERCLA's focus on cleanup, the topic was outside of the scope of the Subcommittee's charge.<sup>A</sup>

The federal government, states, Tribal Nations, and other jurisdictions have statutory and regulatory programs designed to promote safe management of hazardous materials. In addition, many private companies and facilities have integrated significant pollution prevention steps into their everyday operations with marked success. In other cases, however, because of either a lack of adequate enforcement or a lack of sufficient environmental controls, contamination continues to occur at some facilities. If not addressed, this contamination could turn into a major cleanup need at some operations. In addition, where insufficient financial assurances have been provided, some cleanups could get shifted to the NPL, further burdening an already overstretched Program. While pollution prevention efforts will not prevent all sites from being added to the NPL, such measures could reduce the numbers of sites that might otherwise be listed. To address these concerns, the Subcommittee believes that EPA should take steps both to prevent the creation of sites that may need cleanup in the future and to prevent sites that may need clean up from having to draw upon the financial resources of the Superfund Program.

Some members of the Subcommittee believe it would be prudent for EPA to identify prevention techniques across all programs to determine if their application to Superfund would prove useful. Further, EPA should review sites added to the NPL in recent years to determine whether trends exist with respect to contaminants, types of sites and other characteristics so as to assess whether a stronger focus on pollution prevention could have kept those sites from becoming Superfund sites. The information from such a review could potentially be used to strengthen the focus on pollution prevention in Environmental Impact Assessments and Statements.

The intent of this analysis is to support the development of guidance to the Regions and states for a renewed focus on pollution prevention. In addition, the results of such an analysis could support efforts by the Agency to improve financial assurances so that, over time, fewer fund-lead sites would be created. (See the following discussion in this chapter on financial assurances) This effort should not be so intensive that it unduly drains resources from the goal of cleanup.

EPA should undertake pollution prevention reviews in an open and transparent fashion. Communities located near facilities have a long-term interest in working with EPA and industry to promote pollution prevention programs that provide opportunities for sound economic development, while reducing threats to public health and the environment. Similarly, companies that engage in pollution prevention activities have an interest in ensuring that all companies undertake such measures in order to ensure a level playing field.

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<sup>A</sup> Subcommittee member Richard Stewart supports this view. See Attachment A for Mr. Stewart's individual statement and elaboration on his position.

## Deliberations on Ensuring Adequate Financial Assurances

While the Subcommittee as a whole did not spend considerable time researching or deliberating the complex issue of financial assurances, to try to ensure that currently operating facilities do not need Superfund dollars for cleanup in the future, some Subcommittee members felt that the issue was integral to the role of the NPL.<sup>B</sup> These members believe that the role of the NPL should not be focused on newly contaminated sites; rather, existing programs should prevent and rapidly respond to such contamination as it happens. Other members of the Subcommittee felt that the topic was outside of the scope and areas of expertise of most of the members and, therefore, was inappropriate to address in this report. Additionally, while the scope of the Subcommittee was focused on Superfund, some members felt that the scope of the recommendation should not be limited to Superfund sites, since this approach could be used to prevent the creation of future NPL-caliber sites.

Members who felt that the issue should be addressed by the Subcommittee were very concerned about the adequacy, quality, and long-term stability of financial assurances. These members believe that EPA and the states should develop the skills to rigorously and uniformly evaluate proffered financial assurance in a manner consistent with the best financial practices used by the financial industry. Some of the Subcommittee members suggested that the EPA look to the evaluation procedures and techniques (such as those employed by Moody's, A.M. Best, and Standard and Poors) to ensure EPA and its delegate administrators accept only financial assurance of the highest quality. Any such process should include both initial and periodic reviews, in accordance with financial industry standards. EPA headquarters should develop guidelines to implement the rigorous process outlined above for the use of regional and delegate administrators.

Specifically, the Subcommittee members who supported addressing this issue proposed that EPA undertake efforts to enhance and implement financial assurances that can be used for Superfund sites in order to reduce Program expenses, encourage timely settlements with viable and cooperative PRPs, and prevent the creation of new orphan shares. They pointed to Section 108(b) of Superfund, which requires EPA to create regulations mandating financial assurance for facilities.<sup>C</sup>

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<sup>B</sup> Subcommittee member Vicky Peters agrees that improved financial assurances is integral to the charge from EPA; in particular, the role of the NPL. See Attachment A for Ms. Peters' individual statement.

<sup>C</sup> Subcommittee member Vicky Peters agrees with the perspectives presented in support of the implementation of financial assurance measures. See Attachment A for Ms. Peters' individual statement.



# **Attachment A:**

## **Subcommittee Members' Individual Statements**

*Position Statement of:* **Vicky Peters**  
 Senior Assistant Attorney General  
 Natural Resources and Environment Section  
 State of Colorado

With Concurrence of Aimee Houghton, Doris Cellarius, Jason White, Ed Lorenz, Dolores Herrera, Alexandra Shultz, Grant Cope

I also endorse: "Top 10 Issues To Protect Public Health and The Environment at Superfund Sites" (See Jason White's appended statement); State Superfund Managers' Statement (except the endorsement of first bullet for national review by headquarters of NPL-candidate sites); Ed Putnam's statement on the role of cost in listing; Alexandra Shultz's discussion regarding many of these same issues and the importance of pollution prevention, environmental compliance and effective financial assurances.

#### **Regarding the Role of Risk in the Superfund Program**

Absent a dramatic paradigm shift, risk assessment will continue to be a necessary but imperfect tool in the Superfund program, as well as every other pollution control program. In Superfund, the question of risk is raised at every stage of the process: 1.) whether the site poses sufficient risk to warrant listing on the NPL; 2.) what cleanup is necessary to ensure that unacceptable risks are eliminated, i.e., "how clean is clean?"; 3.) whether risks warrant accelerated response, e.g., through a removal action, or a higher priority remedial action; and finally 4.) whether the success of the Superfund should be measured by risk reduction achieved. The Subcommittee did not address the second question and disagreed on the other three.

#### Consideration of Risk in Listing Decisions

Generally the Subcommittee agreed that the NPL should reflect sites that pose a significant risk to human health and the environment and that likely will not be adequately cleaned up absent the resources available to sites listed on the NPL. We did not define "significant" risk<sup>K</sup>. This is not surprising. For several years, scores of stakeholders, lobbyists and Congressional staff attempted to define "NPL caliber" sites and exclude them from Voluntary Cleanup Program Agreements and proposed legislation. The exercise proved futile; instead, these agreements and the "Brownfields" statute exclude sites that have entered into the Superfund assessment process.

I believe that the determination of "significant risk" should be generally consistent with the level of risk posed by sites that have been proposed for listing in the past 10 years or so, (as adjusted through implementation of Recommendation 4), and should be based on the application of a standard set of criteria, rather than a comparison among NPL-candidate sites in any given year. A site that has been sent forward by an EPA region as posing a significant risk should be listed regardless of how much it costs and how soon funding can be made available for its cleanups; otherwise, communities at sites left off the list could actually experience greater threats than some sites put on if the competition for the former was greater or funding less in the year(s) they are considered.<sup>L</sup>

Criticisms that the HRS has not been screening out enough sites fell into two groups<sup>M</sup>: a.) current or potential exposures predicted by the HRS could be disproved with site-specific data; and b.) the

<sup>K</sup> We also did not agree what constituted "adequate" cleanup, but I am not addressing that issue.

<sup>L</sup> See also comments submitted on this subject by Ed Putnam.

<sup>M</sup> Community, environmental, tribal, and State members also questioned whether the current listing process has kept pace with our growing knowledge of risks via pathways such as vapor intrusion and subsistence lifestyles, among other things.

HRS does not reflect risk, and allows the listing of sites with “hypothetical potential future risks.”<sup>N</sup> The prior criticism should be addressed by Recommendation 4.

The terms, “current actual risk” versus “potential future risk,” are themselves confusing, as risk inherently refers to the future. People who are currently exposed and suffering adverse effects are not “at risk;” they are injured. I believe, however, that the term, “potential future risk,” is meant to relate primarily to changes in land/water use and also, perhaps, to potential future events and/or migration. Examples of the latter, would be a tailing impoundment that might fail under certain conditions, or buried contaminated sediments that could be disturbed by certain natural or anthropogenic circumstances. Regarding such cases, I cannot agree to a blanket policy that would preclude EPA from listing such sites, or assign them a priority so low that they are never addressed. Only people familiar with the site, who could judge, with the input of other stakeholders, the likelihood of such events transpiring, and the potential for harm, should decide whether such sites pose a significant risk to human health and the environment.

I do not support spending hundreds of millions of dollars to address contamination that could not reasonably result in unacceptable exposures to humans or the environment. Unfortunately, the Subcommittee cannot prescribe good judgment. As long as the event does not occur, of course society is better off addressing on-going exposures. If such occurrence does occur, however, and results in serious adverse effects, or greatly increased cleanup costs, society is ill-served. Therefore, the listing of such sites should not be automatically precluded, but rather, such decisions should be left to the regions as informed by the outreach suggested in Recommendation 3.

Apart from the future event scenario, as discussed above, I cannot support precluding the listing of a site with no current exposure for three reasons: first, I have seen from personal experience how quickly land use can change. Development moves far faster than Superfund. Houses have been built on or immediately adjacent to contaminated sites that were not cleaned up a few years ago because residential use was not “reasonably anticipated” by EPA project managers. Second, allowing contamination to migrate to human or ecological receptors before taking action is ill-advised because cleanup costs would increase, and greater injuries to natural resources would occur in the process. In either instance, allowing individuals (or ecological receptors) to suffer exposure before addressing known contamination would, in my view, be unconscionable. Third, even if exposures could be averted indefinitely, the resources would remain injured and unproductive. CERCLA was passed not only to protect against on-going threats but also to mitigate the occurrence of national sacrifice areas. Regions and stakeholders are best able to weigh these considerations and determine when listing is appropriate.

#### Consideration of Risk in Prioritization of Sites on the NPL

Critics have for years admonished EPA and DOD/DOE to incorporate the principle of “worst first” into their cleanup programs. While cleanup of the most contaminated and dangerous sites first is a laudable goal, much of such criticism reflects a lack of understanding of the complexities of the sites addressed by these programs, as well as the issues involved in risk assessment. For example, in ranking risks to human health, how would one decide which is worse, cancer or lupus; chronic respiratory infections or decreased sperm count? Toxicity includes not only the concentrations at which chemicals are found but also the severity of their effects. If one site has toluene orders of magnitude over a drinking water standard and another has nitrosodimethylamine (carcinogenic at parts per trillion level) barely above a risk-based level, which site is worse? What if the receptors include an environmental justice community where certain baseline diseases are more prevalent? Of course, the complexities would be exponentially greater if risks to the environment and ecological receptors were added. Even if such judgments could theoretically be made, the resources it would take to evaluate thousands of sites would be enormous.

Although any prioritization must consider risk in determining priorities, such consideration cannot be reduced to a quantitative ranking but rather might be subjected to broad categories such as 1, 2

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<sup>N</sup> No specific examples of inappropriately listed (or unlisted sites) were discussed by the Subcommittee.

and 3<sup>o</sup>. Category 1 might be sites where acute (i.e., less than 10 days) exposure could result in severe adverse effects. Category 3 might be mild effects after chronic exposure. Everything else, which would be most sites, would likely fall in-between. Even with such a simplistic approach, reasonable people could disagree on what are mild versus moderate or moderate versus severe effects, and what would be moderate for most could be severe or even deadly for sensitive subpopulations. Furthermore, the uncertainties in risk assessment render more quantitative rankings fruitless; for example, we know virtually nothing about synergistic or antagonistic effects from multiple chemical interactions, very little about the sensitivities of children and the potential for endocrine disruption in pregnant women, and are only now exploring the toxicological significance of hormesis. The usefulness of the risk assessment tool should not be oversold.

The prioritization approach that the Subcommittee was working toward, and that I endorse, would require analysis of the likelihood of exposure, (including whether there was current exposure), the degree of potential harm, including whether exposure would result in acute or chronic toxicity, the type of toxicity associated with the contaminants at the site, and the amount of toxic substances that were present, among other factors. All of these factors would be evaluated qualitatively with active participation of stakeholders from the sites, and accountability for decisions made. Such a rigorous, transparent process is more likely to result in good decisions than one in which arbitrary numerical values are assigned to various site characteristics.

The Subcommittee's unwillingness to engage in quantitative relative risk ranking should not come as a surprise. FFERDC<sup>P</sup> had five years in which to develop a prioritization approach, (among other things); it gave up on relative risk ranking fairly early on. DOD, (glutton for punishment), continues to "quantify" relative risk in its recent Munitions Response Site Prioritization Protocol and Range Rule Risk Methodology and continues to be attacked by States because application of these models results in disparate and sometimes nonsensical conclusions.<sup>Q</sup> DOD attempted to categorize all of its contaminated sites and were criticized because virtually all of them were designated as high risk. DOE and EPA gave up long ago.<sup>R</sup>

#### **Consideration of Risk Reduction in Measuring Program Progress (MPP)**

EPA is also under pressure to use risk reduction measures of program progress for Superfund. Such measures would be difficult if not impossible to develop. In fact, the Work Group on MPP invested considerable time and energy in an effort to develop meaningful, transparent, clear and simple risk reduction measures that would not require significant additional expenditures to gather and collate data; however, the group was unable to satisfy these goals. This is largely due to the difficulty in defining populations at risk. EPA identifies potential exposure pathways and receptors; however, once identified, EPA does not try to quantify precisely the number of receptors, and the exact risk to which they are exposed, both of which can be transient. Nor can the agency capture averted threats to future populations because it cannot predict how adjacent areas will be developed and uses changed. What EPA can do is measure when all threats that are posed by contamination at a site are adequately addressed – i.e., deletion of the site from the NPL.

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<sup>o</sup> Regardless of such categorizations, assignments of risk must be augmented by other principles and site-specific factors discussed in the body of the report to ensure a well-managed and cost-effective program.

<sup>P</sup> Federal Facilities Environmental Restoration Dialogue Committee

<sup>Q</sup> See e.g., Superfund Report, January 5, 2004, "States Attack DOD Proposal for Prioritizing Munitions Cleanups."

<sup>R</sup> EPA does apply weighting factors to "new starts" each year, but they are not limited to risk factors, and I and other members did not agree with them.

*Position Statement of:* **Alexandra Shultz**  
 Director, Legislative and Regulatory Affairs  
 Earthworks

I have received the endorsement for these comments in their entirety from Dolores Herrera, Doris Cellarius, Aimee Houghton and Grant Cope

I am choosing to dissent from the report of the full Subcommittee, for the reasons described below. In making this dissent, however, I wish to offer my support and thanks to the many people who worked so hard on this panel to ensure that the Superfund program improves the lives of citizens in affected communities, as well as the environment. In particular, I would like to recognize the efforts of the tribal and environmental justice representatives, who made many personal sacrifices just to participate in the often grueling discussions of this NACEPT Subcommittee. I also wish to formally endorse the comments of Jason White, which include "Top 10 Issues To Protect Public Health and The Environment at Superfund Sites", as well as the appended comments of Dolores Herrera, Doris Cellarius, Aimee Houghton, Vicky Peters, Ken Jock, and Grant Cope.

In dissenting, I would also like to make it clear that there are aspects of the report that I do support, and that would be very important to see implemented. These include: improving collaboration with Tribal nations and potentially affected communities (parts of recommendations 2 & 3), building capacity for State and Tribal cleanup programs (recommendation 8), measuring the effectiveness of Agency coordination with Tribe, state, local and community stakeholders (recommendation 12), and the release of an EPA annual report that makes public information on program progress and spending, and information on sites considered for listing and those not listed and why. (recommendations 5 and part of 6).

Unfortunately, the negatives in this report outweigh the positives – from the flawed process, to the unacceptable language that was included, to the critically important recommendations that were left out. As such, I was unable to endorse the overall report.

#### **Lack of Accountability on the Range of Views**

First, it is extraordinary that this report has degraded into a so-called "range of views" document, when those views are not attributed to any specific Subcommittee members or stakeholders. If this were a consensus document, it would be understood that every Subcommittee member would be endorsing the recommendations as at least acceptable, if perhaps not preferable. The final report, in contrast, contains views that would leave communities and the environment in harm's way, such as using an uncharacterized idea of "present risk" as the motivating factor in listing and prioritization decisions by the EPA. Since I could not support such views, I am extremely uncomfortable with putting my name on a document that contains them.

Moreover, because EPA representatives indicated that they might use the disparate views to inform the agency's course of actions, such unacceptable language could be turned into policy. I cannot endorse that possibility. Finally, the lack of attribution on the views has left a document that lacks either transparency or accountability while criticizing the EPA for not being transparent or accountable enough on the underlying Superfund program.

#### **Cost Should Not Be a Factor in Making Listing Decisions**

I am also extremely concerned over the removal of the recommendation that the cost of cleaning up a particular site NOT be used as a factor in the decision to list or not list that site on the National Priorities List. The decision to list a site on the NPL involves assessing which sites most need federal intervention because of their severity and the inability of other programs to clean them up. Cost is not relevant to considerations of the threats a site may pose to human health and the environment, or to the speed with which a site can and should be addressed, and as such is not relevant to listing decisions. Moreover, if the cost of a cleanup is a problem, it is incumbent on the EPA to state that plainly, request that funding, and not let insufficient funding jeopardize communities or the environment. Not listing a site because of insufficient funding is abhorrent. I also wish to note that in many previous drafts of the report, Recommendation 1 included language that cost not be used as a factor in listing decisions. Yet, in the final report, this language was removed, without an explanation or any transparency about who objected or why.

**“Risk,” “Segmenting Large Sites” and Inaccurate Funding Discussions are Unacceptable**

Among the other issues that have prompted my inability to endorse the final report are the unattributed, industry-backed language on using present risk in listing and prioritization decisions, the discussion of the EPA’s segmenting large sites; and the flawed description over what prompted the breakdown in consensus on the proposed recommendation to request more funding for the sites that need it the most.

**Omission of Recommendations:****Short-term Funding to Protect the Communities Most at Risk**

Equally objectionable is what the report omits – including some of the recommendations that could have gone the farthest towards ensuring a healthy Superfund program that does an adequate job of protecting human health, communities and the environment. Chief among these is a recommendation that more money goes to contaminated sites that are stalled or stopped because of a lack of funds. It is critically important that communities and the environment impacted by heavily contaminated sites have the money they need to proceed with timely cleanup. Anywhere from \$300 million to \$800 million per year, as explained in three separate reports from the EPA Inspector General, the General Accounting Office, and Resources for the Future, is needed to make up the shortfall. Without injecting more money into the process now, communities will suffer. Many of the industry representatives on the panel were only willing to agree to such a recommendation if they could control where the funding were to go – instead of allowing the agency to use additional money to protect the communities that need it the most. The report omits the recommendation and inaccurately describes the source of disagreement.

**Reinstating the Polluter Pays Fee to Provide a Stable, Long-term Source of Funding**

A separate, although related, issue that the report ignores is how to ensure that the Superfund program has sufficient long-term funding. Only a stable source of funds to supply the appropriations process will enable the program to plan to cleanup severely contaminated sites in a timely manner into the future. Even finding efficiencies in the current Superfund program will at best free up 5 -10 percent (if any) of the program’s money, an amount insufficient to ensure protections for communities and the environment. The “fund” in “Superfund” should be reinstated. That will require reinstating the polluter pays fee. It is irresponsible to claim, as the EPA and the report does, that megasites are burdening the program, but not address how to get the funding that will ensure that those sites will be cleaned up.

**Resources for Communities**

Third, the report omits a recommendation that communities receive funding for Technical Assistance Grants if their site would have been eligible for inclusion on the NPL and if the TAG funding had not already been consumed by NPL sites. The concept that new statutory language would be needed for such a recommendation is inaccurate. Instead, the report does not deal with this important issue.

**Pollution Prevention and Corporate Responsibility**

Finally, but not least importantly to communities around the country that bear the brunt of the consequences of toxic pollution, are the twin issues of pollution prevention and corporate responsibility. I strongly object to the statement in the report that pollution prevention is not part of the Subcommittee’s charge. The original charge asked the Subcommittee to address issues relating to megasites and to the National Priorities List. Given that, the single biggest step that the EPA can take to protect the long-term vitality of the Superfund program is to ensure that new sites never get contaminated enough to be considered for Superfund cleanup. Barring that, the EPA should at least attempt to ensure that sufficiently solid industry-provided financial assurances are available in order to prevent any taxpayer-funded from being burdened by cleanup liabilities. It is highly disappointing that the report does not include the suggested recommendation on prevention, especially given how much stronger that recommendation could have been. Moreover, the report confuses the two issues of pollution prevention vs. corporate responsibility.

**Pollution prevention** should be the gold standard to which all environmental agencies and private companies are held. Once contamination has occurred, it is impossible to put the genie back in the bottle, and people and wildlife have already been exposed or put at risk of being exposed to highly dangerous contaminants. The EPA should strive to protect healthy people and environments by preventing sites from becoming toxic waste sites to begin with. There are a number of steps the EPA can and should take to achieve this goal.

1. The EPA should, for example, strongly enforce existing environmental laws such as the Clean Water Act and the Resource Conservation and Recovery Act.
2. The EPA should also take as strong a stance as possible in comments to Environmental Impact Statements shepherded by other agencies, using all the knowledge the EPA can glean from all its programs. For example, in an EIS for a mine site, the EPA could use knowledge learned from cleaning up a similar site to ensure that the preferred alternative includes sufficient mitigation measures to prevent acid runoff, or to urge the no alternative option. The EPA has taken steps to implement this sort of action recently in the EIS for the Phoenix mine in Nevada, where the EPA argued for a long-term water treatment trust fund of \$33 million, while the BLM only called for \$400,000 – an amount that would not begin to address the perpetual pollution predicted for the mine.
3. The EPA should also craft new regulations to stop pollution that is not already covered by existing authorities. For example, while mining operations are exempt from the hazardous waste provisions of RCRA, EPA retains authority to craft regulations to govern certain types of mining wastes. Yet, the EPA has failed to take action to regulate hazardous mining waste – to the detriment of communities and the environment in the Western U.S.

**Corporate responsibility** measures – through requirements for strong industry-funded financial assurances - are another step the EPA can take to ensure that sites do not become burdens on the Superfund program. More specifically, the EPA should exercise its authorities, such as those under section 108(b) of CERCLA and through its ability to comment on the EISs shepherded by other agencies, to require companies seeking to open new facilities to put up a sufficient pot of funding in advance to pay for any required cleanup. Strictly speaking, financial assurance requirements are not pollution prevention measures. Such cleanup money only becomes necessary if a site becomes polluted and requires cleanup. Financial assurance measures simply ensure that an already contaminated site does not become the liability of federal, state or local taxpayers. It is extremely important that such financial assurance measures require a secure source of funding, such as a bond or letter of credit just to name two. If a company is allowed to simply promise to pay out of its own existing resources – a so-called “corporate guarantee,” taxpayers will be left out in the cold if the company later goes bankrupt or makes its assets unavailable in some fashion. Such “corporate guarantees” are no better than “IOUs.” To date, a mixture of corporate guarantees and insufficient bonds have left taxpayers on the hook for as much as \$12 billion just for cleanup costs at currently operating mine sites, according to “Putting a Price on Pollution” a 2003 report by Jim Kuipers and the Center for Science in Public Participation.



*Position Statement of:* **Jason White**  
 Environmental Specialist, Office of Environmental Services  
 Cherokee Nation

### Top 10 Issues to Protect

#### Public Health & The Environment at Superfund Sites

This document describes pro-active positions of the representatives listed below on key issues on which the report by EPA's National Advisory Committee on Environmental Policy and Technology's Superfund Subcommittee report contains a "range of views." These members agreed upon the following positions that maintain or increase Superfund's ability to protect public health and environmental quality.

#### I. A Weakened Superfund Cleanup Program

In recent years, the Superfund program has suffered severe funding shortfalls, dramatic declines in the pace of cleanups, and an inability to conduct cleanups at some of the nation's most contaminated toxic waste sites. Program funding has declined from \$1.7 to \$1.3 billion—over 30% using inflation adjusted dollars—between 1993 and 2003. Since 1995, with the expiration of Superfund's dedicated funding mechanism, taxpayers have increasingly paid for the cleanup of abandoned Superfund sites and the running of the Superfund program. Now, in 2004, taxpayers, rather than industries, will pay 100% of such costs. The number of annual cleanup completions has fallen over 50% since the last half the 1990s. The following list built upon consensus contains ten concrete steps to address these problems.

#### II. Pro-active Initiatives to Protect Public Health and Environmental Quality

- 1) **Increase Funding and Reauthorize Superfund's Fees:** The Administration and Congress should agree to increase funding for the Superfund program by \$300-\$800 million annually<sup>x</sup>, and should support and sign into law a reauthorization of Superfund's polluter pays fees;
- 2) **List Sites for Clean Up:** EPA headquarters should not consider the potential costs of a cleanup or budgetary shortfalls in making listing decisions. However, EPA headquarters should generally defer to regional proposals to list toxic waste sites on Superfund's national priorities list;

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<sup>x</sup> Three reports provide the factual foundation for this range. First, Resources For The Future reported that the Superfund Program would likely need level or increased funding throughout this decade to adequately fund cleanups. Katherine Probst, et al., Superfund's Future; What Will It Cost? (1999). However, actual appropriation have been \$300 to \$800 million below RFF's inflation adjusted base and high estimates. Second, EPA's 2004 Inspector General report released agency documents demonstrating that the resource needs for activities included in the FY 2002 Remedial Action Advise of Allowance (i.e. remedial actions; long-term response actions; five-year reviews; enforcement fairness projects; above-the-base removal actions; and redevelopment/reuse projects) is nearly three times the budgeted amount of \$224 million. (EPA Inspector General, Congressional Request on Funding Needs for Non-Federal Superfund Sites, Rpt. 2004-P-00001 (Jan. 7, 2004); EPA, Memorandum from Elaine F. Davies to Superfund National Program Managers, OSWER 9275.1-04 (Jan. 3, 2002). Third, the General Accounting Office also recently reported that over the last ten years the Superfund Program has suffered a decline in funding of \$672 million adjusted for inflation.

- 3) **Better Integrate Stakeholders:** EPA should increase its outreach to affected and impacted communities, tribes, states, and EJ groups during the listing process, including providing funds for TAGs at non-NPL sites where such funds do not reduce the availability of funding at NPL sites;
- 4) **Promote Protective Listing Decisions:** The HRS and listing process should capture the core value of tribal concerns and EJ principles, and non-traditional threats such as vapor intrusion and explosives;
- 5) **Strengthen Long-Term Protections:** Bolster the long-term management of toxic waste sites by reducing the reliance on Institutional Controls (ICs), including land use controls, strengthening enforceability and tracking mechanisms, and expanding resources for long-term stewardship;
- 6) **Improve Institutional Coordination:** Increase ATSDR and NIEHS' responsiveness, accountability, and funding to address concerns of impacted communities and states, create guidance on declaring a "public health emergency" that details when citizens can obtain health services, and craft community report cards;
- 7) **Prevent Future Sites:** Strengthen pollution prevention efforts by creating section 108(b) financial assurance regulations and expanding prevention activities at facilities at risk of creating NPL sites;
- 8) **Increase Funding To Other Programs:** The federal government should increase funding to state and tribal programs to help them maintain and increase their capacity to clean up toxic waste sites;
- 9) **Use Effective Measures of Success:** EPA should use clear, verifiable, performance measures that are based on readily available data and that reflect progress in the actual cleanup of sites not elaborate calculations of exposure control or risk reduction; and
- 10) **Quickly Address Threats:** EPA should use Superfund's existing legal authorities to prevent and clean up contamination threatening public health and the environment, including at Federal facilities.

Signed,

Aimee Houghton  
Center for Public Environmental Oversight

Alexandra Shultz  
Legislative and Regulatory Affairs  
Earthworks (formerly known as Mineral Policy Center)

Dolores Herrera  
Environmental Justice

Doris Cellarius  
Sierra Club

Ed Putnam  
State of New Jersey

Grant Cope  
Environmental Attorney

Jason White  
Office of Environmental Services  
Cherokee Nation

Ken Jock  
Environmental Division  
St. Regis Mohawk Tribe

Mildred McClain  
Harambee House, Inc./Citizens For Environmental Justice

Victoria Peters  
State of Colorado

## **EXHIBIT 12**





# Budget 2007

**U.S. Environmental Protection Agency Summary**

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*Annual Performance Plan and Budget Overview****EPA's Mission***

The mission of the Environmental Protection Agency (EPA) is to protect and safeguard human health and the environment. This budget supports the Administration's commitment to achieving environmental results as we work to develop more efficient methods to conduct our mission. It also emphasizes the Administration's desire to diversify our energy sources, promote emission-reductions technologies, revitalize the Great Lakes, and improve the security of our Nation's drinking water infrastructure. Additionally, this budget incorporates new responsibilities and requirements for some of EPA's major programs, along with some new provisions mandated by the Energy Policy Act of 2005 (EPAAct).

***Annual Performance Plan and Budget***

The EPA's FY 2007 Annual Performance Plan and Budget requests \$7.3 billion in discretionary budget authority and 17,560 Full Time Equivalents (FTE). This request demonstrates the Agency's efforts to work with its state, tribal, and local government partners to protect clean air and water, preserve and restore contaminated lands, promote healthy communities and ecosystems, assure compliance with environmental regulations, and to secure the Nation's environmental assets through homeland security programs such as Water Sentinel. Specific narratives for each program outline what the resources accomplish and FY 2007 priorities. Human Capital and EPA's workforce levels are two overarching resource areas that impact all programs and projects. A discussion of planning and management initiatives follows.

***Human Capital***

In FY 2007 EPA will continue to develop and refine its Human Capital strategies, to ensure that the Agency recruits, trains and retains a qualified pool of employees to protect human health and safeguard the air, water and land. EPA will continue its systematic approach to workforce planning throughout the Agency which includes: setting targets, and closing competency gaps, in mission critical occupations (MCOs); increasing emphasis on innovative and flexible recruitment and hiring strategies to address personnel shortages within MCOs; and improving the overall effectiveness of the hiring process for the Agency's workforce.

EPA has met many important milestones in implementing its revised Human Capital Strategy, and the Human Capital Accountability Plan. In FY 2005, EPA National Program Managers (NPMs) and Regional offices formally adopted the Human Capital Strategy, and developed office-specific Action Plans, using the Agency's Human Capital strategy framework. Results of the Agency's Action Plans will then be used to inform the Human Capital strategic planning process, and to make future strategic workforce decisions.



*Annual Performance Plan and Budget Overview*

In FY 2006, as part of workforce planning efforts, EPA will complete an assessment of current competency gaps for senior management, the first selected MCO sample group. In FY 2007, the Agency will further its Workforce Planning efforts by closing competency gaps in senior leadership positions and developing plans to address the competency gaps in other MCOs. The results will continue to be evaluated through our Human Capital accountability reporting, ensuring a highly skilled, diverse, results-oriented workforce with the right mix of technical expertise, experience, and leadership capabilities.

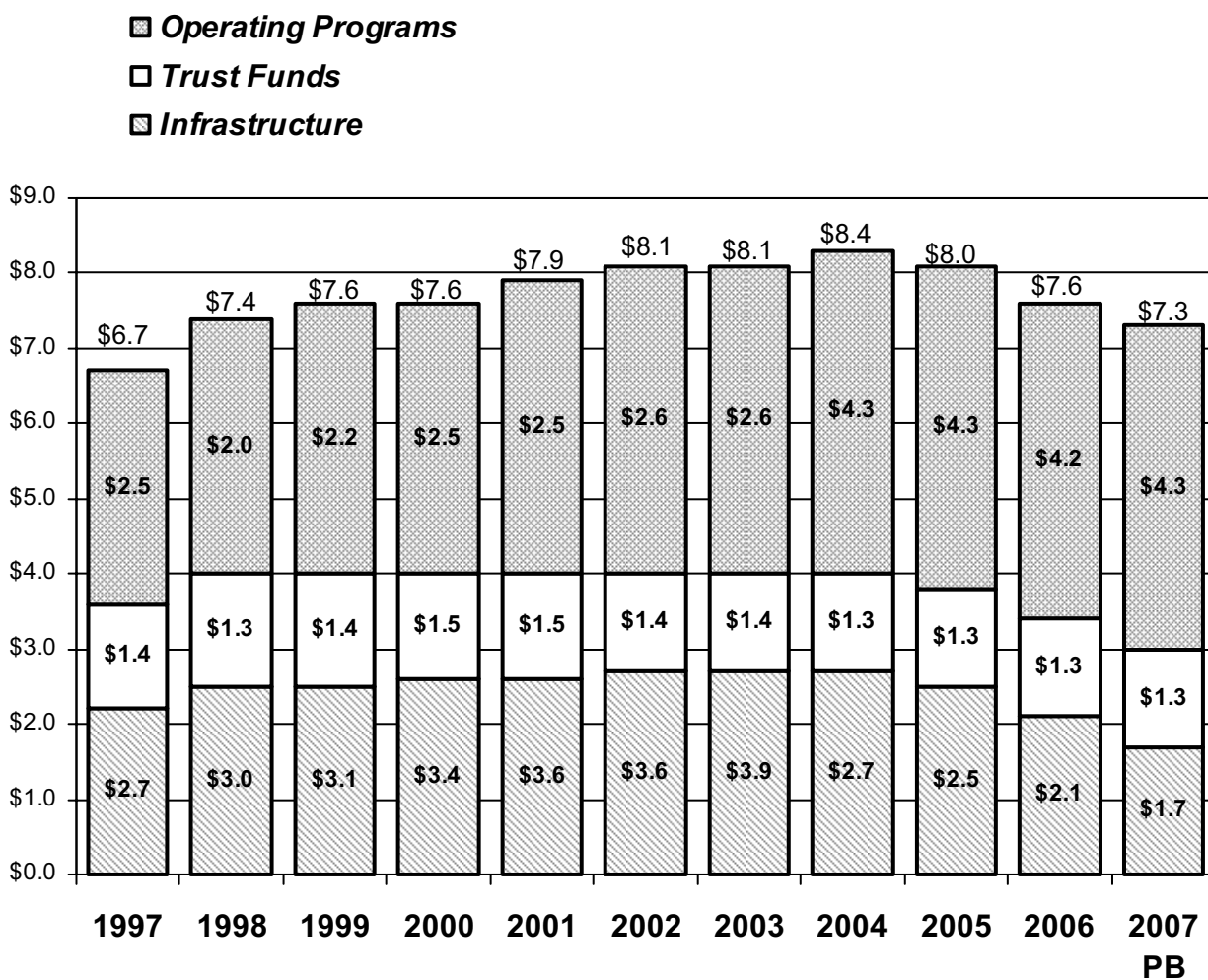
**Workforce**

EPA values its world class workforce and uses its expertise to meet urgent responsibilities across a broad range of national and local environmental issues. In FY 2007 adjustments to EPA's workforce management strategy will help better align resources, skills, and Agency priorities. A key step is aligning the total number of authorized positions and actual FTE utilization. In FY 2007 EPA's estimated 17,560 FTE will work toward advancing the Agency's mission of protecting human health and the environment.

## Annual Performance Plan and Budget Overview

## Environmental Protection Agency's Resources by Major Category

(Dollars in Billions)



FYs 1996-2006 reflect EPA's final Enacted Operating Plan  
 FY 2007 reflects the President's Budget.

FY 2002 does not include \$175.6 million provided for Homeland security in the Emergency Supplemental Appropriations Act.

## **EXHIBIT 13**



OFFICE OF INSPECTOR GENERAL

*Catalyst for Improving the Environment*

## **Special Report**

# **Congressional Request on Funding Needs for Non-Federal Superfund Sites**

**Report 2004-P-00001**

**January 7, 2004**

## **Abbreviations**

AOA	Advice of Allowance
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
EPA	U.S. Environmental Protection Agency
FY	Fiscal Year
LTRA	Long-Term Response Action
NPL	National Priorities List
NTCRA	Non-time Critical Removal Action
OIG	Office of Inspector General
OU	Operable Unit
OSRTI	Office of Site Remediation and Technology Innovation
PRP	Potentially Responsible Party
RA	Remedial Action
RPM	Remedial Project Manager



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
WASHINGTON, D.C. 20460

INSPECTOR GENERAL

The Honorable Barbara Boxer  
Ranking Member  
Subcommittee on Superfund and Waste Management  
U.S. Senate  
Washington, D.C. 20510

Dear Senator Boxer:

This report responds to your May 23, 2003, request of the Environmental Protection Agency (EPA) Office of Inspector General (OIG) to provide information concerning funding needs for non-Federal Superfund sites. We are sending identical reports to the cosigners of the letter: Senator Jeffords, Representative Dingell, and Representative Solis. Your letter requested that we address the sufficiency of funding for non-Federal sites at all stages of the site cleanup process, including a more detailed review of a limited number of sites to determine if cleanup actions are being stretched out over a greater number of years because of inadequate funding.

The body of this report and enclosures 1 through 5 address funding for Fiscal Year (FY) 2003. The attachment to your letter posed a series of questions relating to our October 25, 2002, letter on FY 2002 funding needs for non-Federal Superfund sites. Our responses to those questions are in enclosures 6 through 11. Please note that given the volume of data requested, we are providing certain requested financial information via the enclosed disk.

In summary, during FY 2003, limited funding prevented EPA from beginning construction at all sites or providing additional funds needed to address sites in a manner believed necessary by regional officials, and caused projects to be segmented into phases and/or scaled back to accommodate available funding. Within this context, regional officials told us that they considered FY 2003 funding sufficient to address most sites. However, as discussed in the body of this report and in the enclosures, sufficient funds were not available to address a limited number of removal, pipeline, and remedial action sites. We estimate that the FY 2003 site-specific funding shortfall was \$174.9 million. Our estimate of shortfall only considers the regions' use of extramural resources (those resources that are used to fund work by the Army Corps of Engineers or contractors) applied to site-specific work. This report does not address intramural resources, or those obligations involving the labor and travel of EPA personnel that are obligated to specific Superfund sites.

Our October 25, 2002, letter on FY 2002 funding needs was limited to two phases of the cleanup process for Superfund sites - those sites requiring remedial action and those requiring long-term

response actions (LTRA). Your May 23, 2003, request letter asked us to inquire about all stages of the process. Accordingly, in addition to discussing funding for remedial action and LTRA sites, the enclosed information for FY 2003 addresses sites requiring (1) time critical removal actions, and (2) preconstruction activities (referred to as pipeline activities), such as remedial investigation/feasibility studies and remedial design work.

## **The Superfund Funding Process for FY 2003**

The Office of Site Remediation and Technology Innovation (OSRTI) within the Office of Solid Waste and Emergency Response provides funds for EPA regions to conduct site cleanup activities using three Advices of Allowance (AOA):

### ***Removal Funding***

The Removal AOA funds emergency and time-critical removal actions at those sites where it is determined that the contaminants present an immediate threat to human health and the environment. The regions do not request funds from Headquarters on a site-by-site basis prior to the start of a fiscal year because the nature of this work requires an immediate response to unanticipated conditions. Instead, OSRTI provides funds to the regions based on historical allocations for the emergency removal program.

### **Pipeline Funding**

The Pipeline AOA provides the regions funds for pre-construction activities, such as conducting remedial investigation/feasibility studies that characterize the nature of the contaminants at a site; selection of the remedy, which is documented in the Record of Decision; the design of the construction work to address the contaminants; and non-site-specific work, such as community involvement activities, records management, and State program development. The regions do not request funds on a site-specific basis from Headquarters for pipeline activities.

Prior to receiving funds, the regions input information on pipeline activities accomplished in the prior year and those planned for the current year into the Comprehensive Environmental Response, Compensation, and Liability Information System CERCLIS), the Superfund information system. During this process, the regions identify or “target” activities in certain categories they believe can be initiated with funding amounts from OSRTI. OSRTI then allocates funds to each region using a formula that considers historical allocations and pipeline activities accomplished in the prior year and work planned for the current year (i.e., the targeted activities). The regions then apply pipeline funds to targeted activities for sites or allocate an amount of money to contracts that will later be used to conduct pipeline activities. The latter process is known as “bulk funding.” Under bulk funding, site-specific obligations are not recorded in the Agency’s financial management system until the contractor is instructed to perform a pipeline activity for a particular site.



## ***Remedial Funding***

The Remedial AOA funds remedial construction, LTRA activities, non-time critical removals, and five-year reviews. LTRAs involve continuing treatment activities after construction is complete. Groundwater monitoring is an example of an LTRA. The regions annually request funds from Headquarters for remedial, non-time critical removal, and LTRAs on a site-specific basis. Regions input cost estimates into CERCLIS, and complete Project Evaluation forms for ongoing and new start projects with estimated costs of \$600,000 or more. The Project Evaluation forms enable the regions to provide a desired amount of funding, a minimum amount, and a description of the known hazards present at the site and the impacts of not providing funding. New construction starts are evaluated by the National Risk Based Priority Panel, a group of senior Headquarters and regional officials whose analysis is used by management to make funding decisions.

Once the regional information is available, OSRTI and the regions begin discussions about regional requests and eventually arrive at an initial allocation of funds for each site. Following a methodology from FY 2002, projects with estimated costs of less than \$5 million were generally funded at the amount requested by the regions, while the amounts allocated for higher cost sites represent the amounts mutually agreed to by Headquarters and the region. OSRTI issued its initial funding memorandum for FY 2003 on October 30, 2002. OSRTI officials indicated to us that the allocation of funds is a dynamic process that continues throughout the year. (We found this to be the case. For example, as shown on enclosures 3 and 4, regions reported not needing funds they initially requested from OSRTI based on various factors such as delays and being able to use funds from prior year appropriations. On the other hand, some sites required and received additional funds beyond the amounts estimated for FY 2003.)

In addition to funds provided by OSRTI, the regions obligate funds from two other sources. Funds are obligated from monies provided by States as matching funds for construction activities and from "Special Account" monies provided by Potentially Responsible Parties (PRPs) in accordance with Consent Decrees.

## ***FY 2003 Emphasis on Ongoing Remedial Actions***

For FY 2003, OSRTI transferred \$10 million of pipeline funds to remedial construction. In its October 30, 2002, memorandum discussing initial FY 2003 funding decisions, OSRTI stated that "Because of the limited resources available for construction, regions have the discretion to minimize new Fund-financed remedial investigation/feasibility study (RI/FS) and remedial design (RD) work." OSRTI also revised its deobligation policy to direct that 75 percent of deobligations become part of the national pool for reobligation.

As with FY 2002, OSRTI emphasized funding ongoing construction over new construction starts. For FY 2003, the National Risk Based Priority Panel considered 35 new start projects and determined that 9 should receive remedial funds. Of the remaining 26, 15 did not receive remedial funds, and 11 were, according to an OSRTI official, determined not ready for various reasons, including enforcement issues, changed site conditions, or design complications. Two of

the sites not receiving remedial funds - Elizabeth Mine in Region 1 and the Washington Recreation portion of Operable Unit #3 of the Bunker Hill site in Region 10 - did receive removal and pipeline funds, respectively.

## Results of OIG Review

Regional officials told us that they had sufficient funding for the majority of sites for FY 2003. However, a limited number of removal, pipeline, and remedial action sites did not. When funding is not sufficient, construction at National Priority List (NPL) sites cannot begin; cleanups are performed in less than an optimal manner; and/or activities are stretched over longer periods of time. As a result, total project costs may increase and actions needed to fully address the human health and environmental risk posed by the contaminants are delayed. We estimate that the FY 2003 funding shortfall was \$174.9 million as summarized in the following table.

Category	Estimated FY 2003 Funding Shortfall (millions)	Enclosure
FY 2003 new start construction projects not funded	\$118.5	3
FY 2003 remedial projects not sufficiently funded	\$40.8	3
FY 2003 removal projects not sufficiently funded	\$9.4	1
FY 2003 pipeline projects not sufficiently funded	\$6.1	2
Total (difference due to rounding)	\$174.9	

In analyzing whether funding was sufficient for a given site, we began by asking regional Superfund officials/Remedial Project Managers (RPMs) whether they developed their estimate for FY 2003 without consideration of budget limitations (i.e., whether their estimate was based on the work that needed to be done from an engineering standpoint to address the site in an optimal way in FY 2003). In response to our questions about how site cleanup estimates are developed, some regional officials told us that expected budget limitations were a factor in developing their estimates for FY 2003. Some regional officials informed us that cleanup work is conducted differently than it was conducted when full funding was available. Limited funding forces work at certain sites to be phased and/or scaled back to accommodate available funding. We then asked regional officials whether the amount obligated was sufficient to proceed in an optimal way. Their responses are noted in enclosures 1 through 4 under the Sufficient Funding column.

We also inquired about 15 sites in greater detail. These sites are summarized in enclosure 5. For these sites, in addition to discussing them with regional Superfund officials, we obtained information such as the nature and extent of contamination and the status of cleanup from CERCLIS. OIG engineers assisted in our review of these sites and provided their opinion of whether EPA's funding decisions were appropriate given the unique nature of each site. We considered four of the 15 sites to be insufficiently funded for FY 2003.

### ***Removal Funding***

Financial information provided by OSRTI indicated that the regions obligated \$128.1 million from the FY 2003 and prior-year appropriations and an additional \$32.2 million from State Superfund contracts and amounts provided by PRPs in response to Consent Decrees for a total of \$160.3 million. Enclosure 1 lists those removal actions that were not fully funded in FY 2003.

Regions generally reported having sufficient funds to address emergency removals. However, several regions said that because of the amount of removal funds available to them, they made decisions to modify the type and extent of the removal, or partially fund sites. Examples follow:

- Region 1 officials said that friable asbestos in buildings on the Inter Royal site was not completely dismantled. Further work may be needed in the future as the buildings degenerate.
- Region 3 reported having sufficient funds for removal actions but stated that it had changed its approach for the removal program because of limited funding over time. Region 3 now focuses on stabilization of sites (for example, erecting a fence and/or enclosing leaking drums to control spread of the contaminant) rather than on complete cleanups.
- Region 5 officials reported that three sites requiring removal actions were not sufficiently funded - Kip Nelson Properties, Hog Hollow, and the Circle Smelting Site. The Circle Smelting site needs a time critical removal action to mitigate the threat to public health and the environment from lead contamination at an estimated cost of \$8.3 million. However, the Region was only able to obligate a total of \$1.6 million from appropriated funds and Special Accounts during FY 2003. Regional officials also told us that they reduced the extent of cleanup in some time-critical removal cases. For example, a site might be fenced and leaking drums placed in sealed containers instead of removing the contaminated soil.
- Regions 6 and Region 7 reported that they were involved with the Columbia Shuttle disaster for approximately three months during FY 2003. Interviews with Regions 6 and 7 Removal Team staff indicated that if this had not been the case, they would have investigated other sites that probably would have needed removal actions. Region 6 officials told us that addressing other removal actions “. . . would have overwhelmed our removal Advice of Allowance.”

### ***Pipeline Funding***

Financial information provided by OSRTI indicated that the regions obligated a total of \$107.6 million from current year appropriations, prior-year appropriations, State Superfund contracts, and amounts provided by PRPs in response to Consent Decrees to site-specific pipeline activities in FY 2003. As discussed below, the amounts obligated for a limited number of sites were not sufficient to conduct pipeline activities in the manner considered necessary by regional officials.

When Regions responded to our questions about the sufficiency of pipeline funding, they generally said the amounts obligated to specific sites were sufficient for targeted sites for FY 2003. However, some appeared to base their answers on whether they were able to make some progress with the funding received. For example, Region 2 considered funding sufficient if the funding allowed the Region to address the site in a manner the Region described as “minimally sufficient.” Region 4 officials considered funding sufficient because the work can be phased (divided into segments) to accommodate available funds spread over as many projects as possible. Region 7 officials told us that they instructed their RPMs to reduce the scope, phase, or delay planned activities where possible. As a result, for some sites the Region reduced the number of samples collected, limited the number of contaminants analyzed, and reduced the number of monitoring wells installed. Region 8 officials indicated that the Region cut all pipeline activities by 10 percent and incrementally funded cooperative agreements at 50 percent to free up funds for remedial investigation/feasibility studies and remedial design work for NPL sites. Thus, some regional officials considered funding sufficient within the constraints imposed by limited funding.

However, some pipeline activities were not sufficiently funded. Enclosure 2 is a list of non-Federal Superfund sites with funding shortfalls for pipeline activities during FY 2003 totaling \$6.1 million. Examples of funding concerns for pipeline sites follow:

- Region 7 estimated \$2.5 million for the Omaha Mining site for FY 2003 but only obligated \$1 million. As a result, fewer residences were sampled for lead contamination.
- The remedial investigation/feasibility study for the Annapolis Mine site in Region 7, estimated to cost \$400,000, was not started.
- The RPM for the Libby, Montana site in Region 8 indicated that an additional \$740,000 was needed to take additional samples, analyze the samples taken, and conduct a study to determine a cost-effective method for quantifying the amount of asbestos in the soil.
- Region 10 officials told us that pipeline operations were significantly cut for the remedial design for the Bunker Hill site and for various community involvement projects. For the Bunker Hill site, the Region obligated \$3.9 million versus its estimate of \$7.05 million for pipeline activities.

### ***Remedial Funding***

Enclosures 3 and 4 list non-Federal Superfund NPL sites for which FY 2003 remedial funding was requested or obligated. For FY 2003, OSRTI allocated \$224.4 million for site-specific remedial work. Considering amounts obligated from the FY 2003 appropriation, prior-years appropriations, State Superfund contracts, and amounts provided by PRPs in response to Consent Decrees. Financial information supplied by OSRTI indicated that the regions obligated a total of \$369.3 million during FY 2003.

To obtain the views of regional officials on the sufficiency of FY 2003 funding, we asked regional Superfund officials, including RPMs, whether the amount allocated to a site was sufficient to address that site in an optimal way without consideration of budget limitations. Generally speaking, the regions reported that there was sufficient funding in FY 2003 for ongoing remedial construction and LTRA projects. However, some Regions reported their decision about sufficiency of funds rested on whether funding was sufficient for site work to continue as planned, even if phased, without additional delays or work stoppage. Regional officials consider every LTRA site listed in enclosure 4 to be sufficiently funded for FY 2003.

Specific planned site work and funding was the result of a series of discussions between Headquarters and the regions. During these work planning discussions, a number of factors are considered, such as what sites are the highest priority for funding, what specific site work could be achieved with available funds in the fiscal year, and when the funding is needed. Regions also told us that because of limited funding, they sometimes “phase” and “scale back” work, do not start new remedial actions, and experience delays. Phasing is the division of a project into smaller work elements, which, according to OSRTI, allows more projects to get funded. However, several RPMs told us that phasing work is not as efficient as up-front funding for remedial actions. For example, as discussed below, at Region 1's Atlas Tack site, remedial action work was partitioned into three phases because there was not enough money to fully fund the site:

- Phase I was the planned work for FY 2002 – if funding was available, the building on the site would have been demolished. The cost estimate was \$1.8 million, but funding was not available.
- Phase II would have occurred during FY 2003, if Phase I was completed in FY 2002. Phase II involves cleaning up the site and preparing it for future use. The estimated cost for this phase is \$11.3 million (Region 1's estimate for FY 2003 was \$13.1 million for Phases I and II). However, the site received no funding in FY 2003.
- Phase III is being designed at this time and will not be ready for funding until FY 2005. The current cost estimate is \$4.3 million.

A Region 1 official indicated that had sufficient funds been available in FY 2002 the work for Phases I and II could have been completed in 6 to 9 months.

Scaling back site work is the reduction of the amount and extent of the work. For example, the RPM for Region 2's Welsbach site stated that this site received the requested funding to excavate three study areas during FY 2003. However, when digging began at the primary study area, the contamination was determined to be substantially greater than anticipated. Since additional funding could not be obtained, work was scaled back at the primary work site and postponed at the two other areas. The RPM said that construction delays at this site could increase construction costs, increase the number of days required for road closures, lengthen the time required before eight displaced families can move back into their homes, and negatively affect the ability of a private swim club to stay in business. The Region reported that the delayed cleanup cannot be associated with an increased health risk at this time.

We asked regional officials how site estimates were developed. We were told that RPMs' requests are generally based on Independent Government Cost Estimates for contractor services and developed in collaboration with supervisors. Some regional officials told us that they did consider the limited budget when preparing site estimates. Region 10 told us that estimates were based on the Headquarters' predicted allocation of the money that would be available during FY 2003. Region 10 officials said that OSRTI informed them in advance that OSRTI would cut back any requested amounts over \$5 million for a particular site due to limited funds. Without that direction, Region 10 staff we interviewed stated that they would have requested more funds for the Bunker Hill site.

Our estimate of the remedial funding shortfall for FY 2003 is comprised of sites where construction could not begin and sites with ongoing construction where the need exceeded available funds. Following are the sites where construction activities were ready to begin but no funding was available because the sites were not ranked high enough by the National Priority Panel:

Region	State	Sites Not Funded in FY 2003	FY 2003 Site estimate (millions)
1 *	Massachusetts	Atlas Tack	\$13.1
1	New Hampshire	Mohawk Tannery	6
1 *	Vermont	Elizabeth Mine	8
1	New Hampshire	New Hampshire Plating	3.5
5*	Indiana	Continental Steel	39.1
5	Illinois	Jennison Wright	12.5
6	Louisiana	Marion Pressure Treating	9
6	New Mexico	North Railroad Ave. Plume	6.5
6	Texas	Hart Creosoting	9.9
6	Texas	Jasper Creosoting	6.2
10	Oregon	McCormick and Baxter	4.7
<b>Total</b>			<b>\$118.5</b>

\*NOTE: site involves multiple operating units

In addition, some sites received less funding than the region requested or, in the view of regional officials, were not sufficiently funded. Some examples of sites not sufficiently funded are:

- The Bunker Hill site in Region 10 – The Region estimated \$37.8 million and obligated \$15.0 million. The entire shortfall involves Operable Unit #3. The impact of reduced funds for the Bunker Hill site is associated with risk to human health, particularly for young children and pregnant women, from lead contamination in a residential area. The future costs are expected to increase as work is delayed.



- The Roebling Steel site in Region 2 – The Region requested \$5 million from OSRTI to demolish a building with asbestos during FY 2003. When OSRTI did not provide the funds, the Region looked to other sources and obligated a total of \$4.3 million from prior year deobligations and State Superfund contracts in September 2003. However, because funding was not available earlier, demolition could not begin in FY 2003.
- The Welsbach site in Region 2 – Region 2 obligated a total of \$20.5 million but the RPM told us that the extent of contamination was greater than expected and work was scaled back at the primary work site and postponed at other areas. The RPM estimated an additional \$7 million were needed for FY 2003.
- The Libby Mine site in Region 8 – Region 8 officials discussed the Libby, Montana site, a non-time critical removal, that poses a cancer health threat to residents in the towns of Libby and Troy. The region requested funds for operable units involving the town of Libby, the town of Troy, and the mine itself (Libby Mine). Funding was obtained for the Libby operable unit, but not for Troy or for the Libby Mine. Region 8 officials indicated that the Region could have used another \$3.7 million. The additional funds would have enabled the Region to analyze more samples to help characterize the site and to conduct a study to determine how clean the site should be.
- The Upper Tenmile Creek site in Region 8 – Region 8 obligated \$3.8 million but the RPM indicated that an additional \$1.3 million was needed to clean up two additional areas and begin installation of an alternate water supply and treatment system.

The request letter also asked that we provide expenditure data by date and the unobligated site balances at the end of FY 2003. Enclosure 3 contains this information for the two sites in each region with the highest total obligations in FY 2003. Because of the volume of data involved, we are providing this information for other sites on the enclosed disk.

### ***High Cost Sites***

Enclosure 5 summarizes the work conducted for a limited number of sites with large estimates of overall costs. We judgmentally selected these sites based on information included in our October 25, 2002, letter on FY 2002 funding. Our selection was primarily based on sites with high overall project costs with comparatively low total obligations at the end of FY 2002. We focused on these sites to inquire in greater depth about how the region arrived at its estimate for FY 2003 and whether, in our opinion, the amount requested appeared appropriate to address these site in an optimal way in FY 2003. For these sites, in addition to discussing them with regional Superfund officials, we obtained information such as the nature and extent of contamination and the status of cleanup from EPA's Superfund information system, CERCLIS. OIG engineers assisted in our review of these sites and provided their opinions of whether EPA's funding decisions were appropriate given the unique nature of each site. In summary, we



identified funding concerns for 4 of the 15 sites reviewed – the Welsbach site in Region 2, the Upper Tenmile Creek and Libby sites in Region 8, and the Bunker Hill site in Region 10. These sites are discussed above and in enclosure 5.

In analyzing funding for remedial action sites, we noted that the demands of a limited number of high-cost, complex sites limit OSRTI's ability to fully fund all ongoing sites and new starts. For example, approximately half of the FY 2003 Remedial AOA funding for remedial action, non-time critical removals, and LTRAs went to 8 sites out of a total of 94 sites receiving funding. In addition, the funding demands for some sites will grow. For example, the RPM for the New Bedford site in Region 1 indicated that the site will require at least \$15 million per year beginning in FY 2004 but could need as much as \$80 million per year for optimal cleanup. The RPM for the Woolfolk Chemical site in Region 4 indicated that if funding of an estimated \$25 million is not available over the next 2 to 3 years there could be increased risk to human health and the environment from the continued migration of contaminants to the groundwater. Such high-cost sites, in addition to sites discussed above such as Continental Steel that did not receive any funding in FY 2003, will continue to pose significant funding challenges for EPA.

## Scope and Methodology

We interviewed OSRTI and regional officials, including RPMs, about the FY 2003 process for funding Superfund sites and reviewed documentation relating to FY 2003 funding. During the interviews, we asked regional officials if they prepared cost estimates for sites without considering budget limitations and whether the funding available to them was sufficient to address sites in an optimal way for FY 2003. To calculate funding shortfalls, we verified with regional officials and RPMs those sites they had designated as insufficiently funded and confirmed with them our estimate of shortfall. We also asked regional officials whether not obligating funds until late in the fiscal year limited the amount of site cleanup activity.

For the financial information in enclosures 1 through 4, we relied on information supplied by OSRTI and regional Superfund officials. To obtain the desired financial information by site, special queries of EPA's Integrated Financial Management System were developed for us by OSRTI and financial management officials. Prior to giving the information to us, OSRTI corrected errors and modified certain data to meet our reporting needs. Given time constraints, we were not able to test whether the queries extracted the data in the manner desired. Further, because unique queries were developed, we were not able to rely on the transaction testing conducted during our audit of EPA's financial statements. However, prior to finalizing this letter, we asked regional officials to confirm the accuracy and completeness of the data provided for the information appearing in enclosures 1 through 4 which they did.

In addition to the above limitation, we did not test the controls governing certain activities, such as the work of the National Risk Based Priority Panel, or the process used to deobligate and reobligate funds. For these reasons, our work does not represent an audit conducted in accordance with *Government Auditing Standards*.

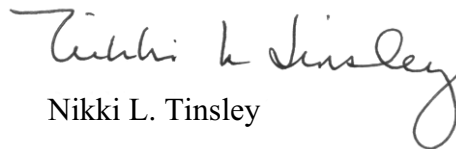
Because of OSRTI's emphasis on remedial action funding during FY 2003, enclosures 3 and 4 contain obligation information for all sites with FY 2003 extramural obligations. However, given the volume of data involved, enclosures 1 (removal) and 2 (pipeline) only list those sites with an identified funding shortfall for FY 2003. Information on other sites is included on the enclosed disk.

To answer the questions in the attachment to your request letter, we obtained information from OSRTI and regional officials in writing and through interviews. This information is provided in enclosures 6 through 11.

As I'm sure you are aware, the Conference Committee on the FY 2004 Omnibus Appropriations Act directed the OIG to conduct an evaluation of how to increase cleanups and reduce administrative costs within the Superfund program. This will provide yet another opportunity for the OIG to provide the Congress with additional information on the Superfund program. We plan to begin this work early in 2004.

If you or your staff have any questions, feel free to call me on (202) 566-0847, or Eileen McMahon, Assistant Inspector General for Congressional and Public Liaison, on (202) 566-2546.

Sincerely,



Nikki L. Tinsley

Enclosures

## ***Listing of Enclosures***

- 1 Non-Federal Facility Sites with Removal Funding Shortfalls for FY 2003**
- 2 Non-Federal Facility Sites with Pipeline Funding Shortfalls for FY 2003**
- 3 Non-Federal Facility Fund-financed Remedial Actions - FY 2003**
- 4 Non-Federal Facility Fund-financed Long-term Response Actions - FY 2003**
- 5 Summary of Sites Selected for Focused Review by OIG**
- 6 OIG Response to Attachment Question 1**
- 7 OIG Response to Attachment Question 2**
- 8 OIG Response to Attachment Question 3**
- 9 OIG Response to Attachment Question 4**
- 10 OIG Response to Attachment Question 5**
- 11 OIG Response to Attachment Question 6**

ENCLOSURE 1 - NON-FEDERAL FACILITY SITES WITH  
REMOVAL FUNDING SHORTFALLS FOR FY 2003

## Non-Federal Facility Fund-Financed Removal Actions - FY03

Region	State	Site Name	National Priorities List Site (Y/N)	FY03 Regional Estimate	FY03 Obligated Amount From Removal AOA*	Date of Obligation	Special Accounts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
1	CT	Inter Royal Corp	N		150,000	1/14/2003			150,000	N	1
5	IL	Circle Smelting	N	8,298,423	500,000	04/09/03	550,000	09/05/03		N	2
					500,000	07/10/03			1,550,000		
					1,000,000		550,000				
5	IN	Hog Hollow	N	243,000	100,000	06/05/03			100,000	N	3
5	WI	Kip Nelson Properties	N	1,172,384	168,000	09/30/03			168,000	N	4
4		TOTAL		9,713,807	1,418,000		550,000		1,968,000	N	

\* - includes prior year fund appropriation obligations  
Note: PRP oversight costs are not included above.

**Notes:**

- 1 Due to limited funds the scope was limited to fencing the property and removing the bulk of friable asbestos that could blow out of the building. With more funds the Region would consider removal of entire structure as a permanent solution. The impact now is the abandoned building remains a potential fire threat that could release asbestos to the surrounding area. FY2003 funding shortfall amount is estimated at: \$1,500,000.
- 2 This site is in need of additional funding to continue to mitigate the threat to public health and the environment from lead contamination. FY2003 funding shortfall amount: \$6,748,423.
- 3 This site needs a time critical removal to mitigate the threat to public health and the environment from contamination. FY2003 funding shortfall amount: \$143,000
- 4 Work at this site has been started. However, insufficient funding is available to complete the clean up action in a timely fashion. FY2003 funding shortfall amount: \$1,004,384.

ENCLOSURE 2 - NON-FEDERAL FACILITY SITES WITH  
PIPELINE FUNDING SHORTFALLS FOR FY 2003

## Non-Federal Facility Fund-Financed Pipeline Operations - FY03

Enclosure 2  
Page 1 of 3

Region	State	Site Name	National Priorities List Site (Y/N)	FY03 Regional Estimate	FY03 Obligated Amount From Pipeline AOA*	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
7	MO	Annapolis Lead	N	400,000				N	1
7	MO	Union Electric - Campbell	N	50,000				N	2
7	NE	Omaha Lead	Y	2,500,000	14,000 1,068 1,000,000 1,015,068	12/19/02 07/09/03 07/30/03	1,015,068	N	3

3 TOTALS

2,950,000

1,015,068

1,015,068

N

Note: Potentially Responsible Party oversight costs are not included above.

Pipeline Operations include site assessments, remedial investigations/feasibility studies, remedial design, and community involvement.

\* includes prior year fund appropriation obligations

**Notes:**

- 1 Unable to fund Remedial Investigation due to Pipeline AOA shortfall for FY 2003. FY2003 funding shortfall amount: \$400,000.
- 2 Completed work using Regional Employee. FY2003 funding shortfall amount: \$50,000.
- 3 Sampling could have started earlier and been more extensive if the full request was received.

This resulted in 5,000-7,000 residential yards not being sampled for lead contamination. FY2003 funding shortfall amount: \$ 1,500,000.



## Non-Federal Facility Fund-Financed Pipeline Operations - FY03

Enclosure 2  
Page 2 of 3

Region	State	Site Name	National Priorities List Site (Y/N)	FY03 Regional Estimate	FY03 Obligated Amount From Pipeline AOA*	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
8	MT	Barker Hughesville Mining District	Y	150,000	150,000	09/10/03	150,000	N	1
8	MT	Libby Asbestos Site	Y	4,050,000	250,000	01/09/03		N	2
					50,000	03/04/03			
					750,000	03/12/03			
					30,000	04/02/03			
					8,000	04/07/03			
					100,000	05/01/03			
					(8,000)	05/27/03			
					8,000	05/29/03			
					500,000	06/03/03			
					200,000	07/14/03			
					19,274	07/28/03			
					1,200,000	08/25/03			
					200,000	09/29/03			
							3,307,274		

2

**Total**

4,200,000

**3,457,274**

**Z**

Potentially Responsible Party oversight costs are not included above. Pipeline operations include site assessments, Remedial investigations/Feasibility studies, remedial design, and community involvement activities.

\* - includes prior year fund appropriation obligations

**NOTES:**

1 Pipeline work on this site was scaled back or completion timeframes extended due to the overall pipeline funding shortfall. FY2003 funding shortfall amount: \$200,000.

2 Pipeline work on this site was scaled back or completion timeframes extended due to the overall pipeline funding shortfall. FY2003 funding shortfall amount: \$740,000.

## Non-Federal Facility Fund-Financed Pipeline Operations - FY03

Enclosure 2  
Page 3 of 3

Region	State	Site Name	National Priorities List Site (Y/N)	FY03 Regional Estimate	FY03 Obligated Amount From Pipeline AOA*	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
10	ID	Bunker Hill Mining & Metallurgical	Y	7,050,000	188	09-Oct-02		N	1
					104	29-Oct-02			
					99	01-Nov-02			
					125	20-Nov-02			
					3	09-Dec-02			
					156	10-Dec-02			
					79,635	23-Dec-02			
					1,351	13-Jan-03			
					215	21-Jan-03			
					234	05-Feb-03			
					29,948	20-Mar-03			
					631,228	31-Mar-03			
					400,000	14-Apr-03			
					25,000	07-May-03			
					960	08-May-03			
					149,854	13-May-03			
					200,000	15-May-03			
					125,000	19-May-03			
					1,447,448	29-May-03			
					33,000	19-Jun-03			
					175,000	20-Jun-03			
					80,000	02-Jul-03			
					19,795	24-Jul-03			
					518	19-Aug-03			
					440	20-Aug-03			
					460,000	17-Sep-03			
					3,860,301		3,860,301		
1		<b>TOTAL</b>		<b>7,050,000</b>	<b>3,860,301</b>		<b>3,860,301</b>	<b>N</b>	

Note: Potentially Responsible Party oversight costs are not included above.

Pipeline operations include site assessments, Remedial investigations/Feasibility studies, remedial design, and community involvement activities.

\* - includes prior year fund appropriation obligations

**Notes:**

- 1 The Region cut its planned FY03 obligations for this site in half because of insufficient funding. Consequently, it reduced management and technical assistance funding; reduced the Mine water remedial design because the state was not going to sign a State Superfund contract to cover the remedial action work; postponed starts of some remedial designs (ecological designs) because it was hearing that the ecological remedial action funding would not be available. FY2003 funding shortfall amount: \$3,189,699.

ENCLOSURE 3 - NON-FEDERAL FACILITY FUND-  
FINANCED REMEDIAL ACTIONS - FY 2003  
(INCLUDES NON-TIME CRITICAL REMOVAL ACTIONS)

Enclosure 3  
Page 1 of 24

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance as of 9/30/03	Sufficient Funding (Y/N)	Notes
1	MA	Altas Tack Co.	13,100,000												18,600,000			N	1
1	ME	Eastland Woolen Mill	5,000,000	5,000,000	132	01/08/03												Y	
					5,000,000	03/10/03													
					7	09/26/03					5,000,139								
1	VT	Elizabeth Mine	8,000,000															N	2
1	NH	Mohawk Tannery	6,000,000															N	3
1	MA	New Bedford	13,500,000	10,000,000	10,000,000	05/06/03	675,000	05/06/03	1,400,000	05/06/03		18,331	10/28/02	130,000,000	105,499,530	79,643,785	26,849,745	Y	4
							520,700	09/04/03				74,232	10/30/02						
							325,000	09/26/03				1,433,741	11/13/02						
												8,511	11/18/02						
												76,077	11/22/02						
												10,652	12/10/02						
												2,504,167	12/17/02						
												327,935	12/24/02						
												206,634	12/30/02						
												1,671,244	01/14/03						
												177,668	01/28/03						
												1,970,733	02/11/03						
												3,193	02/14/03						
												205,823	03/07/03						
												1,399,011	03/13/03						
												28,484	03/21/03						
												135,657	04/04/03						
												2,020,213	04/17/03						
												184,968	05/02/03						
												2,665,464	05/09/03						
												146,536	05/23/03						
												3,061	06/03/03						
												1,989,847	06/05/03						
												149,215	06/19/03						
												4,790	07/08/03						
												1,375,634	07/09/03						
												177,379	07/11/03						
												3,342	07/31/03						
												1,485,022	08/06/03						
												183,223	08/22/03						
												1,585	08/26/03						
												1,246,067	09/03/03						
												23,099	09/04/03						
												875,578	09/18/03						
												227,905	09/22/03						
												1,585	09/30/03						
												12,920,700							
												23,030,806							
1	NH	New Hampshire Plating Co.	3,500,000												15,400,000			N	5
1	VT	Powall Tannery	x		2,400,000	07/23/03						581	09/19/03		9,500,000	581	9,499,419	Y	6
					6,400,000	08/21/03													
					700,000	09/29/03						581							
												9,500,000							
1	NH	Savage Municipal Water Supply	x		49	05/30/03									15,500,000			Y	7
					249,968	08/27/03													
					11	09/17/03													
												250,028							
8	Total		49,100,000	15,000,000	24,750,167		1,520,700		1,400,000			27,670,867	23,031,387	188,300,000	115,999,530	79,650,387	36,349,164	N	

\* - includes prior year fund appropriation obligations  
 \*\* - can involve amounts obligated in prior years as well as Special Accounts and State SF Contracts.  
 \*\*\* - reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.  
 x OSRTI records do not indicate a Regional request for these sites.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

**Notes:**

- 1 Site was not approved for funding by the National Priority Panel. FY2003 funding shortfall amount: \$13,100,000.
- 2 Remedial Action funding was not approved for this site. However, this site did receive emergency removal funds to stabilize the site. FY2003 funding shortfall amount: \$8,000,000.
- 3 Site was not approved for funding by the National Priority Panel. FY2003 funding shortfall amount: \$6,000,000.
- 4 This site was funded sufficiently to continue FY03 actions.
- 5 Site was not approved for funding by the National Priority Panel. FY2003 funding shortfall amount: \$3,500,000.
- 6 The Region did not request funds for FY03 based on work schedule, however during the year, the Region requested and HQ provided the monies listed.
- 7 These funds were for an unplanned site optimization project that will allow the state to take the lead for this site.

**Additional:**

There were two sites listed on the FY02 Remedial Actions spreadsheet that are not included here. They are:  
Eastern Surplus - This site received Long Term Response Funding in FY03, \$1.2 million from Special Accounts.  
Ottati Goss - This site was obligated \$29,355 in Pipeline Funding.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

[illegible]

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
2	NY	Clean Well Field	x		800,000	09/30/03					800,000							Y	11
2	NJ	Weisbach & General Gas Mantle (Camden)	15,659,510	15,659,500	76	12/06/02			1,340,490	03/20/03		131,845	10/15/02	54,480,000	39,925,153	22,407,209	17,517,944	N	12
					10,000,037	05/15/03			1,500,000	07/22/03		1,110,662	10/28/02						
					57	06/27/03			2,020,000	09/25/03		1,868	11/20/02						
					38	09/11/03						947,846	11/22/02						
					5,659,510	09/16/03						201,296	11/25/02						
					69	09/17/03						336	11/29/02						
					174	09/30/03						76	12/10/02						
												422	12/12/02						
												216	12/18/02						
												73,028	01/02/03						
												336	01/03/03						
												425	01/15/03						
												1,091,959	01/16/03						
												326,936	01/23/03						
												976,763	01/29/03						
												216	01/30/03						
												410	02/04/03						
												1,241,212	02/06/03						
												336	02/11/03						
												248,508	02/25/03						
												430	03/03/03						
												336	03/18/03						
												1,183,575	03/27/03						
												158,163	03/28/03						
												425	04/01/03						
												591	04/15/03						
												335	04/22/03						
												921,455	04/23/03						
												426	04/28/03						
												735,263	04/29/03						
												745,808	05/05/03						
												192	05/06/03						
												408	05/13/03						
												37	05/15/03						
												135,954	05/22/03						
												504	05/27/03						
												159	06/03/03						
												546	06/10/03						
												716,455	06/16/03						
												192	06/17/03						
												368,815	06/24/03						
												312	06/25/03						
												57	06/27/03						
												1,227,992	07/11/03						
												155,505	07/22/03						
												134,097	07/23/03						
												266	08/13/03						
												148,528	08/18/03						
												1,259,160	08/20/03						
												281	08/29/03						
												266	09/09/03						
												1,381,568	09/11/03						
												273	09/16/03						
												69	09/17/03						
												532,168	09/22/03						
												273	09/29/03						
												16,165,558							
												20,520,451							
												4,860,490							
2	NJ	Roebbing Steel Co.	5,000,000	5,000,000	105	06/18/03			772,723	09/15/03				9,000,000				N	13
					3,502,799	09/30/03													
					3,502,904				772,723			4,275,627							
2	NY	Samney Farm	x						550,000	06/24/03	550,000							Y	14



Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ	FY03 Obligated Amount From HQ RA AOA*
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[illegible]

\* - includes prior year fund appropriation obligations

- includes prior year fund appropriation obligations

**\*\*** - can involve amounts obligated in prior years as well as Special Accounts and State SF Contracts.

\*\*\* - reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.

x OSRTI records do not indicate a Regional request for these sites.

- 1 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 2 The region did not submit a request for funding as it expected Special Account funds.
- 3 FY03 activities were funded in FY02. This obligation is for work to be done the first quarter of FY04.
- 4 Additional funding is for FY04 first quarter activities.
- 5 This was an unplanned Court ordered settlement for a construction claim. The increase is based on the amount settled and the balance of Remedial Action funds remaining on the State grant after construction was completed.
- 6 Final cost estimate for EPA's portion was \$1million less than originally anticipated.
- 7 Site cost overruns were greater than expected. The Region diverted some funds from the Vineland site to cover the Region's shortfall.
- 8 The region did not submit a request for funding as it expected the Special Account funds.
- 9 This site was completed in a prior year, the amount above reflects an administrative closing.
- 10 Additional contamination found during excavation, therefore additional funding was necessary.
- 11 FY02 obligations were sufficient to complete actions in FY02 and FY03. This amount reflects need for first quarter FY04.
- 12 The Region indicated that additional contamination was discovered at the site and funds for planned activities had to be diverted to address this new situation. The result is that work was scaled back at the primary worksite, and postponed at two other planned areas because sufficient additional funds were not available to address this situation, causing the site to be insufficiently funded for FY03. FY2003 funding shortfall amount: \$7,000,000.
- 13 This site was delayed due to funding constraints. Work was stopped at this site in November 2002 and was not resumed until FY2004 due to the timing of the funding. FY2003 funding shortfall amount: \$5,000,000.
- 14 This site was completed in a prior year, the amount above reflects an administrative closing.
- 15 Work was slowed on this site due to a new process that includes multiple monitoring techniques. These techniques reduced costs in FY03.
- 16 This funding was received for an administrative closing.

### Additional

The following list provides those sites that received funding in FY02 but not in FY03:

The following list provides those sites that received funding in FY02 but not in FY03. This is a state lead, fully funded in FY02.

**Burnt Fly Bog**

Montgomery Township  
 This site was previously fully funded and will require additional funding only in the event of cost overruns.

Rocky Hill

**Rocky Hill**  
**Vestal Water Supply Well**

**Tutu Wellfield**  
This site was previously fully funded and will require additional funding only in the event of cost overruns.

Imperial Oil

**Imperial Oil**  
Previously funded \$4.2 million contingency for new wells later deemed not necessary.  
This new start was planned but not possible because a timely agreement could not be reached with the State.

**Cosden Chemical Coatings**  
This new start was planned but not possible because a timely agreement could not be reached.

**Fried Industries**  
Planned work could not take place because the design required extended testing.

**Fried Industries**  
The final design did not call for remediation as expected. Funds were not needed. Planned work could not take place because the design required extended testing.

U.S. Radium

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
3	PA	Crossley Farm	x						46,425 44,793 91,218	04/04/03 09/12/03	91,218							Y	1
3	PA	Croydon TCE	24,000	24,000														Y	2
3	PA	Drake Chemical	x						7,192,257	03/12/03	7,192,257							Y	3
3	PA	East Mount Zion	x						130,000 3,665 133,665	03/18/03 09/12/03								Y	4
3	VA	Kim-Stan Landfill	x		28,906	07/08/03					28,906							Y	5
3	VA	Mathews Electroplating	x						22,790	07/24/03	22,790							Y	6
3	PA	Mill Creek Dump	x						881,353	03/27/03	881,353							Y	7
3	PA	North Penn - Area 6	200,000	200,000	200,000	09/27/03					200,000	1,171	10/09/02	1,700,000	2,153,000	980,424	1,162,576	Y	8
												480	11/05/02						
												645	11/07/02						
												545	12/05/02						
												367	12/12/02						
												329	01/03/03						
												385	02/07/03						
												(845)	02/24/03						
												539	03/05/03						
												(9,366)	03/07/03						
												(1,756)	03/10/03						
												434	04/03/03						
												540	05/09/03						
												3,310	06/06/03						
												907	07/08/03						
												(112)	08/11/03						
												7,125	09/29/03						
					200,000						200,000	4,898							
3	PA	Raymark	50,000	50,000	50,000	08/07/03					50,000			1,140,000				Y	9
3	VA	Rhinehart Tire Fire Dump	x						267,270 80,000 347,270	03/14/03 04/04/03								Y	
3	VA	Saunders Supply Co.	16,000	16,000	16,581	01/14/03			83,416	09/12/03	101,997			13,883,200				Y	10
3	MD	Southern Maryland Wood	15,000	15,000	40,493 21,820	01/09/03 06/20/03			700,000	06/19/03		21,973	10/17/02	61,468,905	64,774,224	63,082,936	1,891,288	Y	11
												6,111	10/30/02						
												1,462	12/04/02						
												5,550	12/24/02						
												1,936	01/27/03						
												29,217	02/24/03						
												557	02/26/03						
												8,683	03/28/03						
												38,206	04/10/03						
												1,535	04/29/03						
												10,267	06/09/03						
												152	06/13/03						
												1,657	06/27/03						
												226	07/08/03						
												1,749	07/22/03						
												114	08/21/03						
					62,313				700,000		762,313	131,902	09/03/03						
3	PA	Strasburg Landfill	x						158,911	09/12/03	158,911							Y	12

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
3	DE	Tybout Corner Landfill	x	305,000	305,000	359,900	500,000	500,000	09/08/03	10,470,680	136,800	66,927,224	64,073,361	2,853,864	Y	13
14	Totals		305,000	305,000	359,900	500,000	500,000	9,610,880		10,470,680	136,800	66,927,224	64,073,361	2,853,864	Y	

\* - includes prior year fund appropriation obligations

\*\* - includes amounts obligated in prior years

\*\*\* - reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.  
x OSRTI records do not indicate a Regional request for these sites.

## Notes:

- 1 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 2 This amount was requested for a State cooperative agreement. However, it was not funded as the state did not submit the application.
- 3 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 4 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 5 This obligation was for an unplanned cooperative agreement with the state to support agency Remedial Action work.
- 6 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 7 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 8 Though funding was received late in the fiscal year, site activities were not interrupted or delayed.
- 9 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 10 Original estimate was short of required funding for operation and maintenance of the facility.
- 11 Additional monies were needed for a cooperative agreement to a state agency allowing them to monitor site activity.
- 12 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 13 The region did not submit a request for funding as it expected Special Account funds.

## Additional:

Two sites were funded in FY02 that were not funded in FY03. They are Berkeley Products and Walsh Landfill. These two sites did not have planned estimates for FY02 but were funded due to unexpected construction needs. These two sites were not at a stage that required action in FY2003. Neither had estimates, nor received funding in FY03.

[illegible]

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount in HQ October 2002	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
4	KY	Distler Bickyard	x						133,048	03/20/03	133,048						Y	7
4	FL	Escambia Wood Preserving	500,000	500,000					523,027	05/07/03	523,027		28,000,000				Y	8
4	NC	FCX, Inc. (Statesville Plant)	x		3,071	01/31/03					3,071		7,500,000	6,620,000			Y	9
4	NC	North Belmont POE	x						31,835	02/20/03	31,835						Y	10
4	TN	Ross Metals Inc	3,000,000	3,000,000	2,000,000	01/02/03	714,253	03/07/03				72,356	10/11/02	10,000,000	8,626,083	2,413,269	Y	11
					285,747	03/07/03	20,000	08/04/03				115,745	10/24/02					
					61,400	03/11/03	74,000	08/11/03				1,122	11/04/02					
					340,000	06/11/03	62,000	09/23/03				130,800	11/08/02					
					726,000	08/11/03						18,612	11/13/02					
					1,018,475	09/29/03						(18,612)	11/14/02					
												128,612	11/21/02					
												508	11/26/02					
												19,971	11/29/02					
												(19,971)	12/11/02					
												770	12/18/02					
												163,391	12/20/02					
												344	12/27/02					
												126,961	12/31/02					
												23,555	01/03/03					
												(23,555)	01/09/03					
												118,949	01/13/03					
												145,397	01/17/03					
												23,933	02/05/03					
												523	02/11/03					
												244,948	02/13/03					
												805	02/18/03					
												152,644	02/19/03					
												22,962	03/06/03					
												311,342	03/07/03					
												384	03/18/03					
												422,129	03/20/03					
												22,132	03/26/03					
												733	04/03/03					
												(46,065)	04/07/03					
												822,708	04/25/03					
												16,238	05/02/03					
												(15,728)	05/12/03					
												273,681	05/13/03					
												416,108	05/22/03					
												196,410	06/03/03					
												18,831	06/04/03					
												365	06/09/03					
												(18,831)	06/11/03					
												490	06/23/03					
												16,825	06/24/03					
												276,317	06/30/03					
												(16,825)	07/03/03					
												216,178	07/09/03					
												508,360	07/25/03					
												137,983	08/05/03					
												(24,016)	08/06/03					
												560	08/11/03					
												372,764	08/27/03					
												719	08/28/03					
												17,691	09/02/03					
												(17,691)	09/04/03					
												366,392	09/19/03					
												734	09/29/03					
												5,301,875	5,719,888					
4	FL	Solltron Microwave	2,100,000	2,100,000	500,000	09/25/03					500,000		10,840,000	2,430,000			Y	12
4	FL	Tower Chemical Co.	400,000	400,000									10,000,000	1,600,000			Y	13

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Initial Funding Plan		FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount		Date of Expenditure	Estimated Total Costs for Remedial Action**	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
			FY03 Amount Initially Requested by Region	Amount from HQ October 2002 Funding Decision							Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**							
4	FL	Trans Circuits, Inc.	700,000	700,000	1,000,000	09/25/03		09/25/03			1,000,000			4,800,000	2,375,000			Y	14
					60,000	09/29/03		09/29/03			1,060,000								
4	GA	Woolfolk Chemical Works	1,300,000	1,300,000	1,300,000	09/30/03		09/30/03			1,300,000			35,000,000	4,750,000			Y	15
12		TOTAL	13,050,000	13,050,000	30,744,693		1,282,253		3,516,239		35,543,185	29,051,534		212,200,000	137,584,533	59,912,417	9,252,116	Y	

\* - includes prior year fund appropriation obligations

\*\* - includes amounts obligated in prior years

\*\*\* - reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.

x OSRTI records do not indicate a Regional request for these sites.

**Notes:**

- 1 Community objections to the design delayed the start of activity. This amount reflects the amount needed to obtain consensus and modify the design.
- 2 No 2003 Remedial Action funds requested or needed at this site. The above funds were used to pay 1996 expenditures at this site that had been previously funded from Trust account monies.
- 3 No Remedial Action funding was needed in FY2003. Remedial Design funding was requested to cover the cost of conducting a pilot scale treatability study at the site on technologies to enhance the removal of residual DNAPL. Remedial Action was completed in 2003.
- 4 The region did not submit a request for funding as it expected Special Account and State Superfund Contract funds. The AOA obligation was for an unplanned need at the site.
- 5 The region did not submit a request for funding as it expected Special Account funds.
- 6 Increase in cost for the Coleman-Evans Remedial Action is attributable to two causes: a three fold increase in the volume of contaminated soil requiring treatment; and, settlement of a contract dispute with the contractor performing the Remedial Action.
- 7 The region did not submit a request for funding as it expected State Superfund Contract funds.
- 8 The Remedial Investigation/Feasibility Study has not been completed on this site and the site is not yet ready for Remedial Action.  
The State Superfund Contract funds received were for moving the last residents from the site and maintaining the grass cover over the contaminated soil and debris.
- 9 2003 Remedial Action allocation was for a consultant geologist from Northwinds Environmental to review and make recommendations for optimizing the groundwater "pump and treat" remedy ongoing at the site. This site was also funded under LTRA.
- 10 The obligation was not for 2003 Remedial Action activity at the site, it was needed to pay 2000 expenditures at this site that had been previously paid from Trust Account monies.
- 11 Insufficient funding in prior years lead to a 15 month delay of this site. 2003 funding increased for this site due to flooding and wet weather which delayed cleanup and maintenance crews required to stay on-site.
- 12 Funding was reduced because of technical problems with implementing a portion of the remedy.
- 13 No obligations for Tower Chemical could be made until late 09/03 because of problems with getting State to sign State Superfund Contract. However, RPM was still not willing to obligate Remedial Action funds until analytical and technical problems are resolved at the site.
- 14 The funding increase was largely due to the fact that the location of the new municipal supply well was nearly twice the distance from the water plant than what was originally estimated.
- 15 Cleanup of Woolfolk Chemical site was originally a PRP-lead. The PRP costs are not reflected above and are one reason for the large variance between total estimated remedial action costs and obligations to date columns.  
Remedial Action obligation for Woolfolk Chemical was delayed until 09/30/03 because of problems getting State to sign State Superfund Contract.

**Additional:**

Five sites from FY02 were not listed on the FY03 spreadsheet. One was listed on the FY03 LTRA sheet as receiving funding - Elmore Waste Disposal.

Hollingsworth - Funds were not required in FY03 for this site. This site is still in the Remedial Design phase.

Southern Solvents - FY02 funds were for a soil vapor extraction system and treatability study. Funds were not needed in FY03. The State was unwilling to implement additional clean up action in 2003 until the prior study was completed.

ABC One Hour Cleaners - Prior year funds were sufficient for FY03 actions as well.

Wrigley Charcoal Plant - FY02 funding was for well replacement and debris removal. Funds were not needed in FY03.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action**	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
5	MI	Aircraft Components (OU1 & 2)	4,000,000	3,848,000	550,000 272,000 3,500,000	12/13/02 04/17/03 08/25/03						4,186 21,931 6 79,761 237,745 353,323 330,819 407,135 415,650 4,119 183,687 3,082	11/14/02 11/21/02 12/19/02 12/27/02 01/15/03 02/14/03 03/17/03 04/16/03 05/16/03 06/19/03 07/15/03 08/13/03 09/12/03	5,600,000	5,822,000	2,051,438	3,770,562	Y	1
					4,322,000						4,322,000	2,051,449							
5	MN	Arrowhead Refinery Co (RA002)	100,000	100,000											200,000			Y	2
5	MI	Bofors Nobel, Inc.	x	x			937,069	04/08/03			937,069							Y	3
5	OH	Bowers Ldfl Oh	x	x				05/08/03	407,452		407,452							Y	4
5	MI	Velsicol Chemical Corp.	11,000,000	11,000,000	4,100,000 178,234 3,215,210 3,973,928 155,000	12/26/02 04/16/03 05/30/03 07/30/03 08/20/03			3,215,210	05/06/03		1,447 2,032,256 922 702 897 5,340 1,032,130 343,294 366 264,474 406,716 7,421 189,020 2,402 516,665 134 (765) 215,223 130,739 77 64,447 479 99,666 653 1,248 206,346 29,638 94,614 338 28,546 76,543 360 553,575 110,270 129 546 503,766 (6,687) 127,261 (4,165) 1,388,820 237 230,510 8,666,600	10/03/02 10/18/02 10/24/02 11/04/02 11/05/02 11/08/02 11/14/02 11/18/02 11/21/02 12/16/02 12/17/02 01/03/03 01/08/03 01/13/03 01/14/03 01/28/03 01/29/03 02/13/03 03/03/03 03/11/03 03/17/03 03/19/03 03/24/03 03/27/03 04/09/03 04/14/03 05/13/03 05/15/03 06/09/03 06/12/03 06/13/03 07/03/03 07/16/03 07/23/03 07/24/03 08/06/03 08/14/03 08/28/03 09/03/03 09/04/03 09/12/03 09/16/03 09/25/03	60,000,000	46,184,355	33,924,335	12,260,020	Y	5
					11,622,372				3,215,210		14,837,582								



## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action**	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
5	IN	Continental Steel (RA001 and RA002)	39,100,000															N	6
5	IL	Jennison Wright	12,500,000															N	7
5	MI	Lower Ecorse Creek Dump	50,000	50,000	19,883	01/13/03					19,883			3,050,000				Y	8
5	MN	Macgillis & Gibbs Co (RA004)	150,000	150,000	50,000	05/20/03			1,311,030	05/08/03	1,361,030			17,751,950				Y	9
5	MI	Ott/Story/Cordova	x						591,836	05/20/03	591,836							Y	4
5	MI	Parsons Chemical	90,921	90,921														Y	10
5	MI	Peerless Plating	x		11,000	12/13/02					11,000							Y	
5	WI	Stoughton WI	x						1,000,000	05/09/03	1,000,000							Y	4
5	MI	Torch Lake MI	x						506,667	05/20/03	506,667							Y	11
5	MI	US Avirex (RA001)	200,000															Y	12
15		Total	67,190,921	15,238,921	16,025,255		937,069		7,032,195		23,994,519	10,718,049		86,601,950	52,006,355	35,975,773	16,030,582	N	

\* includes prior year fund appropriation obligations

\*\* includes amounts obligated in prior years

\*\*\* reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.  
x OSRTI records do not indicate a Regional request for these sites.

## Notes:

- 1 Additional asbestos contamination was discovered at this site and cleanup costs increased.
- 2 This amount was set aside to repay the state. However, EPA decided to repay the state later when LTRA ends.
- 3 BOF-ORS special account money is disbursed to the PRPs performing the remedy. The source of the money is an earlier deminimis settlement with "small" PRPs who are not part of the PRP group performing the remedy.
- 4 Region received this State Superfund Contract funding for work which was completed in another year. This site is construction complete.
- 5 Funding was sufficient since field conditions only allow this amount of dredging.
- 6 This site received no funding from the Prioritization Panel. The Region plans to begin a phased funding approach at this site in FY2004. This site has been on the NPL since 1989. FY2003 funding shortfall amount: \$39,100,000.
- 7 This site received no funding from the Prioritization Panel. FY2003 funding shortfall amount: \$12,500,000.
- 8 The early estimate of \$50,000 to cover newly-discovered contaminated soil was revised because only \$19,883 was needed to clean up the soil.
- 9 The Regional request was in case there were finalizations for construction and engineering costs. These were not needed. The \$50,000 is for contingencies. State Superfund Contract monies are not included in Regional requests.
- 10 The state and EPA decided \$90,921 was not needed because no more work was done at the site.
- 11 Region received this State Superfund Contract money for work which was completed in another year.
- 12 The \$200,000 was an early estimate and was not needed because the State's contract contained sufficient funding to cover the site's operation.

Additional:

All sites funded in FY03 appear in the above schedule.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Remedial Action**	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
6	LA	American Cressle Works, Inc.	x	35,500 7,918 43,418	12/23/02 01/16/03						43,418						Y	1
6	LA	Central Wood Preserving Co.	9,000,000	1,000,000 4,000,000 2,200,000 7,200,000	07/22/03 08/25/03 09/29/03								9,000,000	7,200,000	0	7,200,000	Y	2
6	TX	City of Perryton Well No. 2	x	100,000	06/24/03				302,347	05/13/03	402,347		3,519,124	3,333,333			Y	3
6	LA	Delatte Metals	1,000,000	726,656 1,031,576 1,758,232	05/19/03 08/25/03								15,758,232	15,711,999			Y	4
6	NM	Fruit Avenue	5,000,000	4,000,000	09/03/03						4,000,000		6,050,000	4,000,000			Y	5
6	AR	Gurley Pit	x						685,575	08/05/03	685,575						Y	
6	TX	Hart Cressolting	9,880,000														N	6
6	OK	Hudson Refinery	5,220,000	5,220,000	02/24/03 02/28/03 04/02/03 05/01/03 07/28/03				300,000 300,000	02/24/03 08/26/03							Y	7
6	TX	Jasper Cressolting	6,240,000	4,200,740					600,000		4,800,740						N	8
6	LA	Kriger Battery	400,000														N	9
6	LA	Mallard Bay	1,000,000	750,000 165,794 484,206 341,464 258,414 687,733 2,687,611	06/03/03 06/10/03 07/02/03 07/21/03 07/29/03 08/18/03								2,687,611	2,687,611			Y	10
6	LA	Marion Pressure Treating	9,000,000										24,500,000				N	11
6	NM	North Railroad Avenue Plume	6,500,000										6,500,000				N	12
6	LA	Point Coupee	300,000														N	13
6	TX	RSR Corporation	x	1,000,000	09/03/03						1,000,000						Y	14
6	OK	S&K Industries	400,000														N	15
6	TX	Sprague Rd GW	4,000,000	3,046,091 357,919 3,406,010	12/20/02 09/30/03				783,121 783,121	06/10/03			8,478,734	7,831,212			Y	16
6	TX	Tex-Tin Corp. (OU4)	x	150,000 3,000,000 3,150,000	02/18/03 05/08/03								3,150,000	3,150,000			Y	17

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested By Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Remedial Action**	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
6	OK	Tar Creek	5,000,000	5,000,000	5,000,000	03/03/03		03/03/03	1,660,042 1,070,000	03/03/03 07/15/03		11,304	95,000,000	62,266,290	51,111,627	11,154,663	Y	18
												1,405	10/07/02					
												1,232	10/16/02					
												299,597	10/18/02					
												333	10/25/02					
												120	10/29/02					
												1,826	10/31/02					
												1,361	11/04/02					
												790,434	11/14/02					
												680	11/21/02					
												14,442	11/26/02					
												1,866	11/29/02					
												919	12/13/02					
												475,941	12/16/02					
												2,521	12/24/02					
												1,952	12/31/02					
												523	01/02/03					
												673	01/07/03					
												2,325	01/10/03					
												2,513	01/16/03					
												331,709	01/17/03					
												1,104	01/22/03					
												2,038	01/27/03					
												92	02/06/03					
												91,815	02/10/03					
												396,383	02/13/03					
												543	02/14/03					
												951	02/18/03					
												1,877	02/19/03					
												(304)	02/21/03					
												1,082	02/24/03					
												45,448	02/26/03					
												421	02/27/03					
												657	03/06/03					
												2,380	03/07/03					
												1,029	03/11/03					
												1,230	03/17/03					
												687	03/18/03					
												521,999	03/21/03					
												1,153	03/24/03					
												486	03/25/03					
												192	03/27/03					
												192	04/01/03					
												682	04/02/03					
												667	04/15/03					
												403,077	04/17/03					
												673	04/21/03					
												9,330	04/24/03					
												(27,198)	04/28/03					
												6,593	04/29/03					
												1,271	04/30/03					
												4,187	05/01/03					
												964	05/05/03					
												762	05/06/03					
												1,444	05/09/03					
												741	05/14/03					
												648,293	05/19/03					
												5,108	06/03/03					
												722	06/04/03					

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
6	OK	Tar Creek										709	06/10/03						
												1,260	06/12/03						
												960	06/16/03						
												407,770	06/17/03						
												939	06/27/03						
												1,322	06/30/03						
												2,263	07/15/03						
												941	07/17/03						
												1,423,087	07/21/03						
												535	07/22/03						
												1,976	07/24/03						
												958	08/04/03						
												86,717	08/08/03						
												997	08/14/03						
												1,041,818	08/18/03						
												1,274	08/19/03						
												1,284	08/28/03						
												685	09/04/03						
												373	09/05/03						
												1,294	09/09/03						
												429	09/12/03						
												281	09/16/03						
												636	09/17/03						
												1,458,055	09/19/03						
												528	09/22/03						
												1,151	09/23/03						
												2,047	09/25/03						
												921	09/30/03						
											7,730,042	8,473,837							
											2,730,042								
												5,000,000							

\* includes prior year fund appropriation obligations

\*\*\* includes amounts obligated in prior years

\*\*\*\* reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties, includes amounts obligated in prior years

OSRTI records do not indicate a Regional request for these sites.

**Notes:**

1 Region 6 stated that the funding listed here should be included with the LTRA Regional request and obligations.

2 There were no expenditures as the design for this site had to be updated. Also, the contractor began the bidding process for subcontracts in FY03, but expenses will not be incurred until FY04.

3 Region had additional money so it applied it to this site to ensure funding into the first quarter of FY04.

4 Additional contaminant was discovered at the site leading to additional waste disposal costs.

5 RPM requested entire amount for Remedial Action, the amount obligated reflects actual costs for FY03.

6 This site was not approved for funding by the Priority Panel. Estimated Total Amount For Remedial Action equals request as this site is a Non-Time Critical Removal. FY2003 funding shortfall amount: \$9,880,000.

7 This site did not need the full amount of the funding request.

8. This site was not approved for funding by the Priority Panel. Estimated Total Amount For Remedial Action equals request as this site is a Non-Time Critical Removal. FY2003 funding shortfall amount: \$6,240,000.

9 This site was identified as ready for actions but it was not funded. FY2003 funding shortfall amount: \$400,000.

0 Additional funding was requested to complete the action within one year.

1 This site was not approved for funding by the Priority Panel. Also there were design delays making the site not ready for FY'03 RA funding. FY2003 funding shortfall amount: \$9,000,000.

2 This site was not approved for funding by the Priority Panel. Also there were design delays making the site not ready for FY03 RA funding. FY2003 funding shortfall amount: \$6,500,000.

3 This site was identified as ready for actions but it was not funded. FY2003 funding shortfall amount: \$300,000.

4 Region did not request funding as it expected Special Account funding in FY03.

5 This site was identified as ready for actions but it was not funded. FY2003 funding shortfall amount: \$400,000.

6 This site was completed for less than the estimated costs.

7 Region did not request funding as it expected Special Account funding in FY03.

8 Site received what they expected.

Additional:

Additional.  
There were 3 sites funded in FY02 but not in FY03.

Highland Acid Pit - site activities finished February 28, 2003, future obligations will cover operation and maintenance of the facility. There were 3 sites funded in FY02, but not in FY03.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
7	NE	10th Street "TC"	700,000	1,150,000	300,000 550,000 300,000	02/24/03 06/03/03 09/10/03					4,334 2,215 3,988 2,147 3,172 470 21,033 15,245 603 12,971 192,052 268 97 18,088 268	12/17/02 01/15/03 02/19/03 03/20/03 04/10/03 04/28/03 05/15/03 06/12/03 06/26/03 07/16/03 08/18/03 08/27/03 09/09/03 09/19/03 09/25/03	1,980,100	2,850,000	275,196	2,574,804	Y	
					1,150,000					1,150,000	276,901							
7	KS	57th and North Broadway Streets Site	x					154,899	07/31/03	154,899							Y	1
7	KS	Ace Services	x	572,800	72,825 500,000 572,825	03/14/03 07/02/03							6,805,437				Y	2
7	NE	Cleburn Street Well	x					69,800	07/31/03	69,800							Y	3
7	NE	Hastings 2nd Street	500,000														Y	4
7	IA	Mid-America Tanning Co.	x					96,062	07/31/03	96,062							Y	5
7	MO	Newton County Mine Tailings	1,000,000	400,000	400,000	09/30/03				400,000							Y	6
7	MO	Oronogo-Duenweg OU2	x								16,233 23,800 21,358 216,033 2,263 168 29,774 4,989 175 144 23,000 1,100 75,034 202,561 4,663 144 18,298 6,859 387 170,493 133,869 334 98,201 8,168	10/03/02 10/04/02 10/07/02 10/25/02 11/18/02 11/26/02 11/27/02 11/29/02 12/11/02 01/06/03 01/29/03 02/07/03 02/11/03 03/05/03 03/21/03 04/02/03 04/14/03 04/29/03 05/08/03 06/05/03 06/09/03 07/10/03 09/30/03	31,294,125	29,951,212	28,151,818	1,799,394	Y	7
8	TOTALS		2,200,000	2,122,800	2,122,825			320,761		4,921,868	1,334,949		40,079,662	32,801,212	28,427,014	4,374,198	Y	

\* includes prior year fund appropriation obligations

\*\* includes amounts obligated in prior years

\*\*\* reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.

x OSRTI records do not indicate a Regional request for these sites.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Enclosure 3  
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- 1 Region did not request FY03 funding as it expected State Superfund Contract funds.
- 2 Funds for this site were requested under Long-Term Remedial Actions. The sum of the Long-Term and the Remedial Action obligations equal the Region's request for FY03.
- 3 Region did not request FY03 funding as it expected State Superfund Contract funds.
- 4 Planned funds not needed in FY03 as investigation and site design were not yet complete.
- 5 Region did not request FY03 funding as it expected State Superfund Contract funds.
- 6 This site's project implementation strategy changed. The listed obligation was submitted to priority panel during the year, and the site received the obligation to begin the project.
- 7 Region did not request FY03 funding as it expected Special Account funding.

**Additional:**

There was one site funded in FY02 that does not appear above, Cherokee County received Pipeline Funding in FY03.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

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Region	State	Site Name	FY03 Amount Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action**	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
8	MT	Basin Mining Area	2,600,000	2,600,000	2,600,000	02/19/03					2,600,000			5,698,984				Y	1
8	CO	Broderick Wood Products	x						163,672	08/20/03	163,672							Y	1
8	CO	California Gulch	2,700,000	2,700,000	25,000	12/04/02												Y	2
					200,000	03/07/03													
					340	08/20/03													
					300,000	09/25/03													
					6,000	09/26/03													
					531,340						531,340								
8	CO	Chemical Sales Co.	x								250,000							Y	
8	CO	Denver Radium Site	10,000,000	5,000,000	1,695	05/05/03	2,900,000	09/22/03			2,900,000			45,000,000	114,564,048	98,635,088	15,928,960	Y	3
					3,900,000	08/21/03													
											65,449		10/16/02						
											28,012		10/25/02						
											314,709		11/19/02						
											28,074		11/20/02						
											25,385		12/03/02						
											314,630		12/16/02						
											24,172		12/30/02						
											1,430,893		01/13/03						
											809		01/27/03						
											24,346		01/28/03						
											304,583		01/31/03						
											591,938		02/18/03						
											30,028		02/25/03						
											661,816		03/26/03						
											551,641		03/28/03						
											145,705		04/10/03						
											38,153		04/22/03						
											793,258		05/08/03						
											123,605		05/09/03						
											885,413		05/27/03						
											30,720		05/28/03						
											457,358		06/11/03						
											440,574		06/18/03						
											30,542		06/23/03						
											350		07/16/03						
											531,318		07/22/03						
											178,067		07/23/03						
											413,428		07/31/03						
											527,536		08/15/03						
											599,035		08/26/03						
											41,826		08/27/03						
											223,532		09/18/03						
											1,503,343		09/25/03						
											6,801,695							Y	4
											11,360,248								
8	MT	East Helena Site	475,000	475,000														Y	5
8	UT	Eureka Mills	x								7,200,000			62,475,310	\$7,200,000		7,200,000	Y	5
8	SD	Glitt Edge Mine	4,100,000	4,100,000	306,815	01/30/03												Y	6
					44,000	02/26/03													
					700,000	03/12/03													
					684,029	04/16/03													
					200,000	07/16/03													
					1,615,971	08/04/03													
					1,400,000	08/15/03													
					249,185	08/22/03													
					100,000	09/30/03													
					5,300,000						5,300,000								



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## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
8	MT	Libby Asbestos Site	\$21,100,000	17,600,000	1,000,000	12/18/02											N	7
					550,000	04/01/03												
					600,000	04/17/03												
					1,000,000	05/22/03												
					500,000	06/12/03												
					1,400,000	06/16/03												
					580,011	07/09/03												
					2,700,000	07/14/03												
					2,100,000	07/23/03												
					2,019,990	08/25/03												
					419,989	09/10/03												
					1,600,000	09/16/03												
					900,000	09/19/03												
					381,000	09/25/03												
					3,627,000	09/30/03												
					19,377,990						19,377,990							
8	CO	Summitville Mine	x		2,900,000	03/12/03					2,900,000						Y	8
8	MT	Upper Tenmile Creek	5,000,000	3,700,000	450,000	04/30/03	73,963	06/30/03					24,363,000				N	9
					3,250,000	05/05/03	73,963				3,773,963							
11		TOTAL	45,975,000	36,175,000	42,611,025		6,123,963		163,672		48,898,660	11,360,248	168,115,294	121,764,048	98,635,088	23,128,960	N	

\* Includes prior year fund appropriation obligations

\*\* Includes amounts obligated in prior years

\*\*\* reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.  
x OSRTI records do not indicate a Regional request for these sites.

## Notes:

- 1 The Region did not request FY03 funding as it expected State Superfund Contract funds.
- 2 Non-Time Critical Removal was funded sufficiently, and as RA funding was not need for Cal Gulch in FY 03. Region 8 obtained authority to redirect the funds to Guilt Edge Mine.
- 3 The initial estimate was high, and the amount received was sufficient to keep the work going at the desired pace.
- 4 Received these funds from the ASARCO settlement. This was a contingency request.
- 5 This site was not in R8's initial request, but received funding late in FY 03. There were no expenditures in FY03.
- 6 The obligation on 9/16/03 was the first Remedial Action Obligation, prior funds expended were in the Removal category.
- 7 The Region does not appear to distinguish between LTRA and RA funding. This site is sufficiently funded as combined funding for the site matches the combined requested amount.
- 8 RPM stated that this site needed \$2 million in addition to the estimate that was not requested translating into a shortfall of \$3.7 million.
- 9 Region did not request FY03 funding as it expected Special Account funding.
- 9 An impact of the funding shortfall is the overall delay of the project, and the increased time residents live near contamination. FY2003 funding shortfall amount: \$1,300,000.

## Additional:

One site was listed in the FY02 sheet that is not listed in the FY03 sheet.  
Vasquez Boulevard and I-70 - This site received Pipeline funding in FY03.

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## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes	
9	CA	Del Norte Pesticide Storage	x		500,000 218,400 718,400	06/09/03 09/26/03			259,488	07/07/03	259,468							Y	1	
9	CA	Frontier Fertilizer	x		500,000 218,400 718,400	06/09/03 09/26/03					718,400							Y		
9	AZ	Indian Bend Wash Area	135,000	135,000	100,000 35,000 135,000	12/16/03 06/09/03					135,000			140,000,000	23,213,453			Y	2	
9	CA	Iron Mountain Mine	5,000,000	5,000,000	2,000,000 600 2,500,000	02/18/03 03/14/03 09/16/03			400,000 100,000	05/12/03 09/16/03		377 440,031 1,544,462 932 1,214,808 295 820,847 13,251 1,595,229 1,577,746 1,040,477 917,112 629,464 869 251,307 1,417 996,150 653 796 730 648,298 973 1,525,799 1,399,310 881 235,150 826,804 15,684,965	10/04/02 10/09/02 10/21/02 10/30/02 11/18/02 12/16/02 12/18/02 01/03/03 01/07/03 01/22/03 02/19/03 02/20/03 03/19/03 04/24/03 04/28/03 04/30/03 05/15/03 05/16/03 05/21/03 06/06/03 06/11/03 06/17/03 07/02/03 07/18/03 08/15/03 08/21/03 09/15/03 09/19/03	990,000,000 53,929,693 38,702,208 15,227,485		Y	3			
9	CA	Jibboom Junkyard	x		4,500,600				500,000		5,000,600								Y	4
9	CA	Lorentz Barrel & Drum	x						283,675	07/07/03	283,675				7,500,000	3,334,725		Y	5	
9	CA	McCormick & Baxter Creosoting Co.	2,000,000	2,000,000	2,000,000	03/31/03	450,275	03/31/03			450,275				36,500,000	5,105,000	1,612,378	3,492,622	Y	
9	CA	Modesto Ground Water Contamination	520,000	520,000	520,000	07/09/03			105,000	07/09/03	625,000				26,000,000	10,882,569		Y	6	
9	CA	Newmark Ground Water Contamination	x		250 21,637 50,000 71,887	06/12/03 03/06/03 02/18/03									109,000,000	54,172,830		Y	7	
9	Totals		7,655,000	7,655,000	7,945,887		450,275		1,148,143		9,544,305	17,300,694		1,309,000,000	150,638,270	40,314,586	18,720,107	Y		

Non-Federal Facility Fund-Financed Remedial Actions - FY03

\* - includes prior year fund appropriation obligations  
\*\* - includes amounts obligated in prior years  
\*\*\* - reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.

x OSRTI records do not indicate a Regional request for these sites.

Notes:

- 1 Region did not request FY03 funding as it expected State Superfund Contract funds.
- 2 EPA has reached agreement with the PRP, to pay \$129,000,000 for actions at this site; reducing EPA's future participation.
- 3 EPA has reached agreement with the PRP, to pay \$872,000,000 for actions at this site; reducing EPA's future participation.
- 4 Region did not request FY03 funding as it expected State Superfund Contract funds.
- 5 Region did not request FY03 funding as it expected Special Account funding.
- 6 Total estimated costs includes annual expenditures of \$500,000 for the next 30 years for groundwater monitoring.
- 7 The obligations were to pay for an award claim against EPA and fund an ongoing lawsuit with the Principal Responsible Party.

Additional:

Region 9 - One site was funded in FY02 and not listed on the spreadsheet, San Gabriel Valley  
This site appears on the Region 9 LTRA spreadsheet.

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	ID	Site Name	FY03 Amount Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA *	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action***	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes
10			Bunker Hill Mining & Metallurgical	42,250,000	7,250,000	100,000	11/21/02	1,502,703	09/16/03		09/17/03	437,966	437,966	10/04/02	564,324,941	153,651,234	129,298,451	24,352,783	N	1
						100,000	12/13/02	268,978	09/17/03			3,550	3,550	10/07/02						
						100,000	05/07/03					54,497	54,497	10/08/02						
						100,000	09/16/03					13,121	13,121	10/09/02						
						5,300,000	09/17/03					(18,117)	(18,117)	10/11/02						
						7,000,000	09/17/03					3,550	3,550	10/16/02						
						708,538	09/19/03					36,441	36,441	10/17/02						
												(56,402)	(56,402)	10/18/02						
												230,984	230,984	10/21/02						
												(32,793)	(32,793)	10/22/02						
												141,586	141,586	11/05/02						
												42,714	42,714	11/13/02						
												82,155	82,155	11/14/02						
												(74,930)	(74,930)	11/19/02						
												35,576	35,576	11/21/02						
												99,654	99,654	11/22/02						
												123,916	123,916	11/25/02						
												903	903	12/11/02						
												3,590	3,590	12/20/02						
												7,784	7,784	12/31/02						
												384,521	384,521	01/02/03						
												610	610	01/07/03						
												9,133	9,133	01/08/03						
												1,507	1,507	01/09/03						
												16,684	16,684	01/10/03						
												86,219	86,219	01/13/03						
												26,275	26,275	01/14/03						
												3,550	3,550	01/21/03						
												(25,238)	(25,238)	01/24/03						
												57,682	57,682	01/27/03						
												9,957	9,957	01/29/03						
												545	545	02/03/03						
												8,831	8,831	02/07/03						
												143,781	143,781	02/10/03						
												(132,170)	(132,170)	02/12/03						
												149,745	149,745	02/18/03						
												3,550	3,550	02/24/03						
												190,305	190,305	02/25/03						
												528	528	02/26/03						
												660	660	03/04/03						
												31,952	31,952	03/10/03						
												258	258	03/11/03						
												103,033	103,033	03/12/03						
												254	254	03/14/03						
												1,280	1,280	03/17/03						
												2,214	2,214	03/21/03						
												345	345	03/26/03						
												22,683	22,683	03/28/03						
												352	352	04/01/03						
												259	259	04/03/03						
												88,461	88,461	04/11/03						
												343,790	343,790	04/15/03						
												103,283	103,283	04/25/03						
												(53,980)	(53,980)	04/30/03						
												24,859	24,859	05/02/03						
												68,031	68,031	05/12/03						
												(4,882)	(4,882)	05/14/03						
												106,447	106,447	05/23/03						
												92,805	92,805	06/06/03						
												165,933	165,933	06/13/03						
												81,288	81,288	06/16/03						
												(66,658)	(66,658)	06/17/03						
												1,377	1,377	06/18/03						
												400	400	06/19/03						
												137,589	137,589	06/26/03						
												153,033	153,033	07/08/03						
												5,564	5,564	07/14/03						
												69,259	69,259	07/17/03						
												220,954	220,954	07/18/03						
												3,590	3,590	07/21/03						
												144,929	144,929	07/23/03						
												137	137	07/28/03						
												590	590	08/04/03						

## Non-Federal Facility Fund-Financed Remedial Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Total FY03 Expenditures for Remedial Action**	Date of Expenditure	Estimated Total Costs for Remedial Action**	Total Funds Obligated through 9/30/03	Total Funds Expended through 9/30/03	Unexpended Balance at 9/30/03	Sufficient Funding (Y/N)	Notes	
10	ID	Bunker Hill Mining & Metallurgical Continued			13,308,538		1,772,681				15,081,219	7,142,003	302	09/30/03						
10	WA	Frontier Hard Chrome, Inc.	4,000,000	4,000,000	215,743	01/27/03						280,000	7,555	12/19/02	7,049,743	1,951,759	5,097,984	Y	2	
					124,000	02/03/03						10,391	10,391	01/15/03						
					2,500,000	02/24/03						215,743	10,567	02/14/03						
					3,680,000	05/09/03						9,093	36	03/17/03						
												20,824	145	04/16/03						
												153,515	36	05/23/03						
												23,420	108,251	06/19/03						
												108,251	67	07/28/03						
												321,177	791,329	09/12/03						
												70	09/29/03							
					6,519,743						6,519,743	1,952,219								
10	OR	McCormick & Baxter Creosoting Co.	5,087,700	498,733	225,000	09/29/03					225,000				30,900,000	14,700,000		N	3	
10	OR	Northwest Pipe & Casing	4,000,000	4,000,000	10	12/02/02	10,000	03/31/03							6,103,721	6,103,721		Y	4	
					1,650	04/22/03	450,000	06/16/03												
					75	04/24/03														
					2,126,353	06/16/03														
					237,368	06/17/03														
					195	08/28/03														
					59,475	09/08/03														
					106	09/17/03														
					123	09/29/03														
					2,425,355						2,885,355									
10	WA	Pacific Sound Resources	x	x			5,650,000	06/02/03			5,650,000							Y	5	
10	WA	Palermo Well Field	x	x	10,000	11/21/02					10,000				784,431	784,431		Y	6	
10	WA	Wyckoff Co./Eagle Harbor	x	x			800,000	02/24/03	500,000	09/16/03					125,412,744	52,912,744		Y	7	
							15,000	03/31/03												
							235,000	05/07/03												
							540,744	06/30/03												
							1,322,000	09/16/03												
							2,912,744				3,412,744									
8	Totals		55,337,700	15,748,733	22,488,636	10,795,425	500,000				33,784,061	9,094,222			734,575,580	235,201,873	131,250,210	29,450,768	N	

Non-Federal Facility Fund-Financed Remedial Actions - FY03

\*\* - includes amounts obligated in prior years  
\* - includes prior year fund appropriation obligations  
\*\*\* - reflects estimated total costs for remedial actions for sites with Records of Decision. Some future costs may be borne by responsible parties.  
x OSRTI records do not indicate a Regional request for these sites.

NOTES

- 1 A new operable unit start at this site was not sufficiently funded. FY2003 funding shortfall amount: \$22,729,781.
- 2 Site needed more funding than was estimated.
- 3 A portion of this site was a new start, however, the Priority Panel did not issue funding. FY2003 funding shortfall amount: \$4,727,300.
- 4 Site needed less funding than was estimated.
- 5 Site received only Special Accounts funding, so it was not included in funding requests.
- 6 No funding needs were anticipated, however, \$10,000 was needed to settle a contractor dispute.
- 7 The region did not submit a request for funding as it expected Special Account and State Superfund Contract funds.

Additional:  
All sites funded in FY03 appear in the above schedule.

ENCLOSURE 4 - NON-FEDERAL FACILITY FUND-  
FINANCED LONG-TERM RESPONSE ACTIONS -  
FY 2003



## Non-Federal Facility Fund-financed Long-Term Response Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding		FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
				Plan Amount from HQ October 2002 Funding Decision	Plan Amount from HQ October 2002 Funding Decision									
1	MA	Baird & McGuire	x							300,067	01/30/03		Y	
										350,000	09/29/03			
										650,067		650,067		1
1	MA	Charles-George Reclamation Landfill	310,000	310,000									Y	2
1	ME	Eastern Surplus	x					1,200,000	06/25/03			1,200,000	Y	3
1	MA	Groveland Wells	540,000	540,000	540,000		02/25/03					540,000	Y	
1	NH	Kearsarge Metallurgical Co	300,000	300,000	1,062,612		04/24/03					1,062,612	Y	4
1	NH	Keefe Environmental Services	x					350,350	09/09/03			350,350	Y	5
1	NH	Mottolo Pig Farm	5,000	5,000	2,120		04/02/03			1,200	04/02/03	3,320	Y	6
1	NH	Savage Municipal Water Supply	450,000	450,000				500,032	08/27/03			500,032	Y	7
1	MA	Silresim Chemical Corp.	x					100,000	03/10/03				Y	8
								210,000	06/20/03					
								310,000				310,000		
9		Totals	1,605,000	1,605,000	1,604,732			2,360,382		651,267		4,616,381	Y	

\* - includes prior year fund appropriation obligations

x OSRTI records do not indicate a Regional request for these sites.

## Notes:

- 1 No FY03 request due to State Superfund Contract funding. Though received late in the FY, funds were sufficient to complete FY03 activities.
- 2 The Regional Project Officer reevaluated the contract needs and determined that funds were not needed this year.
- 3 No FY03 request due to Special Account funding.
- 4 Additional funds were needed for an optimization project and a five-year review.
- 5 No FY03 request due to Special Account funding. Though received late in the FY, funds were sufficient to complete FY03 activities.
- 6 Actual funding need was less than anticipated.
- 7 Additional funds were needed for an optimization project.
- 8 No FY03 request due to Special Account funding.

Additional:

All sites funded in FY02 appear in the above schedule.

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from		FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
				HQ October 2002	Funding Decision									
2	NJ	Bog Creek Farm	1,000,000	1,000,000	1,000,000	200,000	04/10/03		09/25/03	100,000	09/25/03	100,000	Y	1
						800,000	09/25/03							
						1,000,000				100,000		1,100,000		
2	NY	Brewster Well Field	600,000	600,000	600,000	600,000	03/07/03					600,000	Y	
2	NY	Circuitron Corp.	585,000	585,000	585,000	585,000	09/11/03					585,000	Y	1
2	NY	Claremont Polychemical	1,000,000	1,000,000	1,000,000	1,000,000	05/06/03					1,000,000	Y	
2	NJ	Garden State Cleaners Co.	450,000	450,000	450,000	450,000	05/06/03			50,000	05/06/03	500,000	Y	
2	NJ	Higgins Farm	1,500,000	1,500,000	1,500,000	1,500,000	04/25/03					1,500,000	Y	
2	NJ	Lang Property	1,170,000	1,170,000	1,170,000	1,040,000	09/08/03			260,000	09/08/03	1,300,000	Y	1
2	NJ	Lipari Landfill	x				02/25/03	4,100,000				4,100,000	Y	2
2	NY	SMS Instruments, Inc.	350,000	350,000	350,000	350,000	01/08/03					350,000	Y	
2	NJ	South Jersey Clothing Co.	450,000	450,000	450,000	450,000	05/06/03			50,000	05/06/03	500,000	Y	
2	NY	Stanton Cleaners Area Ground Water Cont.	650,000	650,000	650,000	370,000	05/16/03						Y	
						280,000	09/17/03							
						650,000						650,000		
2	NY	Vestal Water Supply Well	750,000	750,000	750,000	750,000	09/04/03					750,000	Y	1
2	NJ	Vineland Chemical Co., Inc. - Groundwater Operable Unit	4,000,000	4,000,000	4,000,000	3,200,000	06/04/03					3,200,000	Y	3
13		Totals	12,505,000	12,505,000	12,505,000	11,575,000		4,100,000		460,000		16,135,000	Y	

\* - Includes prior year fund appropriation obligations

x OSRTI records do not indicate a Regional request for these sites.

## Notes:

- 1 Though received late in the fiscal year, funds were sufficient for FY03 activities.
- 2 No funds requested for FY03 as this site has a \$19 million trust fund settlement designated.
- 3 The \$800,000 difference was diverted to another site. The movement of funds did not affect FY03 activities as the money had been allocated for pump & treat work scheduled for FY04.

Additional:

Two sites received funding in FY02 but did not in FY03. They are Ellis Property and American Thermostat. Both sites received enough funding in FY02 to continue activities through FY03.

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## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

Region	State	Site Name	FY03 Amount		FY03 Initial Funding		FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
			Initially Requested by Region	Plan Amount from HQ October 2002 Funding Decision											
3	PA	A.I.W. Frank/Mid-County Mustang	275,000	275,000	150,000	09/29/03							150,000	Y	1
3	PA	Berks Sand Pit	200,000	200,000	155,700	07/23/03					44,300	07/23/03	200,000	Y	
3	PA	Butz Landfill	200,000	200,000	15,000	11/19/02	188,000	09/29/03					203,000	Y	
					203,000										
3	PA	Croydon TCE	250,000	250,000	212,983	09/27/03					37,017	09/27/03	250,000	Y	2
3	PA	Cryochem, Inc.	250,000	250,000	47,984	02/03/03	150,000	07/02/03					197,984	Y	3
					197,984										
3	VA	Greenwood Chemical Co.	500,000	500,000	240,000	02/25/03	760,000	09/27/03					1,000,000	Y	4
					1,000,000										
3	PA	Havertown PCP	1,000,000	1,000,000	400,000	12/20/02	413,941	04/17/03			186,059	04/17/03	1,000,000	Y	
					813,941						186,059				
3	PA	Hellertown Manufacturing Co.	260,000	260,000	130,000	12/18/02	130,000	06/05/03					260,000	Y	
					260,000										
3	PA	North Penn - Area 1	21,000	21,000									0	Y	5
3	PA	North Penn - Area 6	550,000	550,000	550,000	09/27/03							550,000	Y	6
10		Totals	3,506,000	3,506,000	3,543,608				0		267,376		3,810,984	Y	

\* - includes prior year fund appropriation obligations

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

**Notes:**

- 1 The RPM lowered the required amount during the year when better information regarding actual costs was obtained. Though funds were received late in the fiscal year, activities were not delayed or interrupted.
- 2 Though funds were received late in the fiscal year, activities were not delayed or interrupted.
- 3 The RPM lowered the required amount during the year when better information regarding actual costs was obtained.
- 4 The RPM asked for additional monies for unplanned construction.
- 5 The RPM did to need these planned funds as prior activities have not been completed as yet.
- 6 Though funds were received late in the fiscal year, activities were not delayed or interrupted.

**Additional:**

All sites funded in FY02 appear in the above schedule.

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan		FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03		Notes
				Amount from HQ Funding Decision	October 2002							Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	
4	NC	Benfield Industries, Inc	x			100,000	09/29/03					100,000	Y	1
4	KY	Distler Brickyard	x					4,000	03/19/03			4,000	Y	2
4	SC	Elmore Waste Disposal		500,000		500,000	09/25/03					500,000	Y	3
4	NC	FCX, Inc. (Statesville Plant)	x							\$ 300,000	02/03/03	300,000	Y	4
4	SC	Palmetto Wood Preserving		150,000	150,000		03/28/03						Y	5
					175,000		04/17/03							
					100,000		09/30/03							
					425,000							425,000		
5		Totals	650,000	650,000	1,025,000	1,025,000		4,000		300,000		1,329,000	Y	

\* - includes prior year fund appropriation obligations

x OSRTI records do not indicate a Regional request for these sites.

## Notes:

- 1 RPM indicated that no LTRA operating funds were requested thus far in 2003 for Benefield site. However, RA money was requested for installation of additional extraction wells. The RA money was obligated as LTRA funds, thus they are shown here. Carryover LTRA operating funds were sufficient for 2003 expenses.
- 2 RPM indicated that LTRA activities are undertaken by the State on this site under a Fund-Financed State-Lead Cooperative Agreement which currently has sufficient money.
- 3 2002 funding was sufficient through 2003 for LTRA operation. This \$500,000 obligation will ensure adequate funding through 2006.
- 4 No FY03 request due to State Superfund Contract funding.
- 5 The \$150,000 estimate was inadvertently entered into CERCLIS; actual LTRA operating costs are in excess of \$325,000 per year. The increase in funding was made to cover the actual operating cost of the system.

Additional:

All sites funded in FY02 appear in the above schedule.

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## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
5	MN	Arrowhead Refinery (LR001)	80,000	80,000								Y	1
5	WI	Better Brite Plating Chrome	175,000	175,000								Y	2
5	IN	Douglass Road/Uniroyal	200,000	200,000	200,000 75,000 85,000 360,000	06/19/03 08/20/03 09/26/03					360,000	Y	3
5	MN	MacGillis & Gibbs Co. (LR006)	1,300,000	1,300,000	245,635 283,365 721,000 300,000 179,000 1,729,000	12/26/02 01/22/03 08/07/03 08/20/03 09/26/03					1,729,000	Y	4
5	WI	Oconomowoc Electroplating	675,000	675,000	71,844 575,000 646,844	03/24/03 09/26/03					646,844	Y	
5	WI	Onalaska Municipal Landfill	200,000	200,000								Y	5
5	MI	Ott/Story/Cordova Chemical (LR001)	3,000,000	3,000,000	2,500,000	07/30/03					2,500,000	Y	6
5	MI	Peerless Plating (LR001)	375,000	375,000	375,000 200,000 575,000	12/13/02 07/31/03					575,000	Y	7
5	WI	Penta Wood Products	500,000	500,000	150,000 1,075,000 1,225,000	04/04/03 08/20/03					1,225,000	Y	8

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
5	MI	U.S. Aviax (LR001)	300,000	300,000								Y	9
5	MI	Wash King Laundry	130,000	130,000	130,000	05/27/03					130,000	Y	
11		Totals	6,935,000	6,935,000	7,165,844						7,165,844	Y	

\* - includes prior year fund appropriation obligations

## Notes:

- 1 \$80,000 was the estimated need to address a site drainage problem. Due to local government involvement in the site, FY03 funding was not needed.
- 2 The requested amount was an estimated need to continue the action, however there was sufficient money in the contract to operate the plant through 2003.
- 3 Actual costs for FY03 activities were greater than estimated.
- 4 Actual costs for FY03 activities were greater than estimated.
- 5 Site was turned over to the state during FY2003 and estimated funding was not needed.
- 6 The contractor at this site is the Corps of Engineers (COE). The difference between the request and the obligation occurred because COE had excess funding from the previous year.
- 7 Actual costs for FY03 activities were greater than estimated.
- 8 Difference between original request and obligated amount is due to increased cost of construction at the site.
- 9 The requested amount was an early estimate for upgrades to the ground water treatment plant, however the upgrades were not necessary this year.

## Additional:

There is one site that was funded in FY02 and not in FY03: Long Prairie Ground Water Contamination. It received multi-year funding in FY 02 that was sufficient for FY03.



## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding		Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
				Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*								
6	LA	American Creosote	715,000	715,000	41,691 422,240 463,931	04/22/03 08/25/03					463,931	Y	1
6	NM	Cimarron Mining	150,000	150,000	100,000	09/23/03					100,000	Y	2
6	OK	Double Eagle	62,500				62,500	08/21/03			62,500	Y	
6	OK	Fourth Street	137,500	137,500	62,500	08/21/03					62,500	Y	3
6	TX	Odessa Chromium	485,000									Y	4
5		Totals	1,550,000	1,002,500	626,431		62,500				688,931	Y	

\* - includes prior year fund appropriation obligations

**Notes:**

- 1 Due to changes in the current contract, funds required for FY03 were reduced.
- 2 There is a dispute with the State over the remedy. Actual costs for FY03 activities were less than estimated.
- 3 The estimate for this site for FY03 was higher than actual costs for FY03 activities.
- 4 Prior to the start of FY03, the Region determined that FY03 activities could be funded through a previous Cooperative Agreement.

## Additional:

All sites funded in FY02 appear in the above schedule.

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
7	NE	10th Street	650,000	650,000								Y	1
7	KS	57th & N. Broadway	100,000									Y	2
7	KS	Ace Services	1,500,000	927,200	200,000 727,175 927,175	02/25/03 03/28/03					927,175	Y	3
3	TOTALS		2,250,000	1,577,200	927,175						927,175	Y	

\* includes prior year fund appropriation obligations

**Notes:**

- 1 FY03 activities for this site were funded through Remedial Action funding.
- 2 Funds from savings on previous contracts were sufficient to cover FY03 site activities.
- 3 Balance of requested amount used and obligated for remedial action. Total FY03 funding for this site was \$1,500,000.

**Additional:**

No sites were funded in FY02.

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
8	CO	Central City, Clear Creek	1,100,000	1,100,000	600,000	03/24/03					600,000	Y	1
8	CO	Chemical Sales Co.	x				250,000	12/09/02			250,000	Y	2
8	SD	Gilt Edge Mine	2,450,000	2,450,000	250,000	12/20/02						Y	3
					400,000	02/26/03							
					300,000	06/03/03							
					950,000						950,000		
8	CO	Summitville Mine	x				384,860	04/14/03				Y	4
							315,000	06/05/03					
							200,000	09/10/03					
							899,860				899,860		
4		TOTAL	3,550,000	3,550,000	1,550,000		1,149,860				2,699,860	Y	

\* includes prior year fund appropriation obligations

x OSRTI records do not indicate a Regional request for these sites.

**Notes:**

- 1 \$500,000 was diverted to Gilt Edge Mine with approval from OSTRI. This action was due to an over estimate of what Central City really required in FY 03.
- 2 No funds were requested because this site was funded with Special Accounts.
- 3 Region 8 does not appear to distinguish between LTRA and RA funding. This site is sufficiently funded as combined funding for the site matches the combined requested amount.
- 4 No funds were requested because this site was funded with Special Accounts.

**Additional:**

All sites funded in FY02 appear in the above schedule.

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding Plan Amount from HQ October 2002 Funding Decision	FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
9	CA	San Gabriel Valley Area 1 - W.Narrows	1,200,000	1,200,000								Y	1
9	CA	Newmark Ground Water Contamination	500,000	500,000	200,000 249,750 449,750	03/19/03 07/09/03					449,750	Y	2
9	CA	Selma Treating Co.	500,000	500,000								Y	3
3		<b>Total</b>	<b>2,200,000</b>	<b>2,200,000</b>	<b>449,750</b>						<b>449,750</b>	Y	

\* includes prior year fund appropriation obligations

**Notes:**

- 1 RPM had carry over money from prior year, funding was not needed in FY03.
  - 2 Additional \$50,000 requested was funded through RAC bulk-funded contract in FY 2003.
  - 3 Recovered response and oversight costs were sufficient to fund FY03 activities.
- The sampling and modelling needed for decisionmaking did not progress to the point where R9 was able to make decisions on placement of new extraction wells planned for FY03. The new monitoring wells are now planned for later in FY 2004.

**Additional:**

One site was funded in 2002 but not in 2003: Fairchild Semiconductor Corp. (CAD95989778). In FY 2003, EPA received \$178,183.60 in recovered response and oversight costs. This money was used in a special account "09M6" to fund site-related costs (i.e., oversight) instead of relying on Trust Fund money. In FY 2004, EPA anticipates receipt of approximately \$335,000 of recovered response and oversight costs, which will be placed in the special account "09M6".

## Non-Federal Facility Fund-Financed Long-Term Response Actions - FY03

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Region	State	Site Name	FY03 Amount Initially Requested by Region	FY03 Initial Funding		FY03 Obligated Amount From HQ RA AOA*	Date of Obligation	Special Accounts	Date of Obligation	State SF Contracts	Date of Obligation	Total FY03 Amount Obligated (sum of prior 3 columns)	Sufficient Funding (Y/N)	Notes
				Plan Amount from HQ October 2002 Funding Decision	2002									
10	WA	Commencement Bay, South Tacoma Channel	2,000,000	2,000,000		759	03/06/03					759	Y	1
10	OR	McCormick & Baxter Creosoting Co.	289,383		289,383								Y	2
10	OR	Northwest Pipe & Casing	150,000		150,000								Y	2
3		<b>Totals</b>	<b>2,439,383</b>		<b>2,439,383</b>							<b>759</b>	<b>Y</b>	

\* - includes prior year fund appropriation obligations

**NOTES**

- 1 Funding not needed in FY 2003 because funding was carried over from FY 2002, \$759 was a small award fee.
- 2 These two sites were behind schedule and not ready for Long Term Response funding. They both received funding for ongoing remedial actions.

Additional:

All sites funded in FY02 appear in the above schedule.

***Summary of Sites Selected for Focused Review by OIG***

<b>New Bedford Harbor</b>	
Location/Region	New Bedford, Fairhaven, Acushnet, and Dartmouth, Massachusetts/ Region 1
Description of Site	This site, which was added to the NPL in 1983, encompasses two major projects. The first is the construction of a 4.5-acre sediment dewatering and transfer facility. The second project involves the cleanup of the Acushnet River area north of Wood Street due to high levels of PCBs.
FY 2003 Funding Information	Region 1 requested \$13.5 million in remedial action funds in FY 2003 and obligated a total of \$12.9 million.
OIG Comments on Adequacy of FY 2003 Funding	The RPM characterized FY 2003 funding as sufficient but cautioned that site progress will be adversely impacted if the Region's FY 2004 estimate of \$15 million for dredging is not provided. FY 2003 funding was sufficient.

<b>Vineland Chemical</b>	
Location/Region	Vineland, New Jersey / Region 2
Description of Site	Added to the NPL in 1984. This facility manufactured arsenic-based herbicides. Arsenic contaminated the soils, groundwater, and nearby river and lake.
FY 2003 Funding Information	Region 2 requested \$10 million in remedial action funds for FY 2003 and obligated a total of \$8 million.
OIG Comments on Adequacy of FY 2003 Funding	According to the RPM, actual costs were less than anticipated and funds were deobligated from this site for use at the Federal Creosote site. Funding was sufficient for FY 2003.

<b>Welsbach &amp; General Gas Mantle</b>	
Location/Region	Camden and Gloucester City, New Jersey / Region 2
Description of Site	Added to the NPL in 1996. Facilities at this site manufactured gas mantles using thorin, a radionuclide that emits gamma radiation during decay.
FY 2003 Funding Information	Region 2 requested \$15.7 million in remedial action funds for FY 2003 and obligated \$20.5 million.
OIG Comments on Adequacy of FY 2003 Funding	Despite obligating more funds than estimated, the RPM stated that funding for this site was not sufficient. The extent of contamination was greater than expected. As a result, work was slowed down during FY 2003 at the primary work site and postponed at other areas. The RPM estimated an additional \$7 million was needed for FY 2003. Funding was not sufficient for this site.

<b>American Creosote</b>	
Location/Region	Pensacola, Florida / Region 4
Description of Site	This wood treating facility was added to the NPL in 1983. Major contaminants in the soil, sediment, and groundwater included Volatile Organic Compounds and dioxin.
FY 2003 Funding Information	Region 4 initially requested \$3 million in remedial action funds for FY 2003 and obligated \$300,000.
OIG Comments on Adequacy of FY 2003 Funding	Community disagreement concerning the site's future use prevented planned remedial actions from occurring. Region 4 expects to implement remedial action activities in 2004/2005 consistent with the future use of the property. The site was not impacted by funding concerns in FY 2003. According to the RPM, the site does not present an immediate danger to human health. FY 2003 funding was sufficient.



<b>Coleman-Evans</b>	
Location/Region	Whitehouse, Florida / Region 4
Description of Site	This wood preserving facility was added to the NPL in 1983. Soil, sediment, and shallow groundwater in the residential area adjacent to the site was found to be contaminated with dioxin.
FY 2003 Funding Information	Region 4 requested \$4.9 million in remedial action funds for FY 2003 and obligated a total of \$21 million.
OIG Comments on Adequacy of FY 2003 Funding	The RPM indicated that more funds were needed than originally estimated to address a three-fold increase in the volume of contaminated soil and for the settlement of a contract dispute involving \$13 million. FY 2003 funding was sufficient for this site.

<b>Tower Chemical</b>	
Location/Region	Lake County, Florida / Region 4
Description of Site	This abandoned pesticide manufacturing facility was added to the NPL in 1983. The site is located in a mixed agricultural, industrial, and residential area. High levels of DDT and other contaminants were found at the main facility. Groundwater plumes of pesticides and other organic contaminants exist on site.
FY 2003 Funding Information	Region 4 requested and received \$400,000 in remedial funds but the site was not ready for remedial action. Instead, Region 4 obligated \$500,800 of pipeline funds during FY 2003.
OIG Comments on Adequacy of FY 2003 Funding	The RPM indicated that funding was not a concern at this site for FY 2003. Technical problems and characterization of the contaminants must be done before the remedial action can proceed. Work will be funded from State Superfund contract funds. FY 2003 funding was sufficient.

<b>Woolfolk Chemical</b>	
Location/Region	Fort Valley, Georgia / Region 4
Description of Site	This facility, which manufactured pesticides, herbicides, and insecticides, was added to the NPL in 1990.
FY 2003 Funding Information	Region 4 requested and obligated \$1.3 million in FY 2003.
OIG Comments on Adequacy of FY 2003 Funding	According to the RPM, funds were sufficient to resolve problems with the groundwater treatment facility and for determining the extent of the plume to be treated. Delays were due to negotiation and litigation with PRPs and not to lack of funding. FY 2003 funding was sufficient.

<b>Velsicol</b>	
Location/Region	St. Louis, Michigan / Region 5
Description of Site	From 1936 until 1978, the Velsicol Chemical Corporation produced various chemical compounds. Groundwater, soil, and sediments of the Pine River are contaminated with various chemicals.
FY 2003 Funding Information	Region 5 requested \$11 million and obligated \$19 million in FY 2003.
OIG Comments on Adequacy of FY 2003 Funding	FY 2003 funding was sufficient for this site.

<b>Sprague Road</b>	
Location/Region	Ector County, Texas / Region 6
Description of Site	Site was added to the NPL in 1997. Past chrome plating operations are potential sources of a groundwater contaminant plume containing chromium. The groundwater serves as a source of drinking water.
FY 2003 Funding Information	Region 6 requested \$4 million of remedial action funds for FY 2003 and obligated \$4.1 million.
OIG Comments on Adequacy of FY 2003 Funding	FY 2003 funding was sufficient.

<b>Tar Creek</b>	
Location/Region	Ottawa County, Oklahoma / Region 6
Description of Site	This site, which represents multiple mining facilities, was added to the NPL in 1983. The primary pollutants are lead, cadmium, and zinc.
FY 2003 Funding Information	For FY 2003, Region 6 requested \$5 million and obligated \$7.7 million.
OIG Comments on Adequacy of FY 2003 Funding	FY 2003 funding was sufficient.

<b>Upper Ten Mile Creek</b>	
Location/Region	Helena, Montana / Region 8
Description of Site	A mining area affected by lead and arsenic contamination. The primary focus of remedial action is the cleanup of waste in close proximity to the water source.
FY 2003 Funding Information	Region 8 requested \$ 5million and obligated \$3.7 million in FY 2003.
OIG Comments on Adequacy of FY 2003 Funding	The RPM indicated additional funds were needed. The additional funds could have cleaned up two additional areas, and began the installation of an alternate water supply and treatment system. FY 2003 funding was not sufficient. The RPM further indicated that the Record of Decision, which contains a 10-year time frame for cleanup, was impacted by limited funding. The RPM stated the work could be completed sooner if additional funds were available.

<b>Libby</b>	
Location/Region	Libby, Montana / Region 8
Description of Site	This is a large removal action being funded with remedial funds. Primary concern at this site is the cancer risk from exposure to asbestos.
FY 2003 Funding Information	Region 8 obligated \$19.4 million during FY 2003.
OIG Comments on Adequacy of FY 2003 Funding	According to the RPM, funding is not sufficient to address all operable units and completely characterize site conditions. Work was "scaled back" at this site. Instead of analyzing all the samples collected, EPA analyzed the minimum number to gain an understanding of site conditions. FY 2003 funding was not sufficient at this site.

<b>Indian Bend</b>	
Location/Region	Maricopa County, Arizona / Region 9
Description of Site	Site was added to the NPL in 1983. Numerous industrial facilities disposed of industrial solvents directly onto the ground or in dry wells contaminating the soil and groundwater
FY 2003 Funding Information	Region 9 requested and obligated \$135,000 in FY 2003.
OIG Comments on Adequacy of FY 2003 Funding	Majority of costs will be borne by the PRP. The PRP has signed a Consent Decree to pay \$129 million of the \$140 million estimated costs. FY 2003 funding was sufficient.

<b>Iron Mountain Mine</b>	
Location/Region	Shasta County, California / Region 9
Description of Site	Site was added to the NPL in 1983. Mine runoff has contaminated nearby water bodies with heavy metals.
FY 2003 Funding Information	Region 9 requested and obligated \$5 million in FY 2003.
OIG Comments on Adequacy of FY 2003 Funding	PRP has signed Consent Decree to pay \$862 million of the total estimated costs of \$880 million. Remedial action work is almost complete. FY 2003 funding was sufficient.

<b>Bunker Hill</b>	
Location/Region	Northern Idaho / Region 10
Description of Site	This abandoned lead zinc mine and smelter in Kellogg, Idaho was added to the NPL in 1983. Major contaminants in the soil, sediment, and water include lead, mercury, zinc, antimony, and arsenic cadmium. The site includes a 21-square-mile area called "The Box" and the downstream area called "The Basin."
FY 2003 Funding Information	Requested \$42,250,000 in remedial action funds and obligated \$15,081,219.
OIG Comments on Adequacy of FY 2003 Funding	According to the RPM, funding at a reduced level (\$15 million) delays the cleanup significantly. Compared to full funding, the lower funding level adds one additional year for cleanup of Box properties, four additional years for cleanup of Basin properties, seven additional years for cleanup of recreation areas, and a postponement of ecological projects until 2007. FY 2003 funding was not sufficient.

## ***OIG Response to Attachment Question 1***

**Question 1** - According to reports in the trade press, the Superfund program director, Mike Cook, informed the NACEPT Committee that the shortfall in Superfund funding would exceed \$200 million in FY 2002 and continue to grow in future years. Your October 25, 2002, report identified seven NPL sites where funding shortfalls totaling \$91.8 million prevented cleanups from beginning and an additional shortfall of \$17 million for long-term response actions. The report also identified four sites that received partial funding but had a shortfall from the needed amount.

Can you reconcile the difference between Mr. Cook's projection and your findings in the October 25, 2002, report? Does the fact that some sites received only partial funding for remedial actions or the fact that your report did not cover funding for remedial design or remedial investigation and feasibility studies account for some or all of the differential?

**OIG Response** - According to Mike Cook, Director of the Office of Site Remediation and Technology Innovation (OSRTI), the difference was due to the universe of projects being discussed. He described his reference to a "\$200 million shortfall" as a "planning estimate" which included (1) FY 2002 funding needs for the seven sites cited in the OIG's October 25, 2002, letter; (2) FY 2003 and FY 2004 funding needs for those projects where the FY 2002 need represented only the initial increment of funding; and (3) construction projects at other NPL sites that were initially considered for funding during FY 2002 but experienced schedule delays and subsequently were not ready to proceed by the end of FY 2002. Neither Mr. Cook's estimate of the funding shortfall nor the OIG's October 2002 letter discussed funding shortfalls for remedial design or remedial investigations and feasibility studies.

An OSRTI official indicated that OSRTI did not prepare detailed support for Mr. Cook's estimate at the time. In response to our questions, the OSRTI official provided the following information as a "rough frame of reference" for the estimate. We added information on the amount obligated during FY 2003 to provide understanding on the extent to which site needs were addressed in FY 2003.

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Page 2 of 3

Site Name (Region/State)	OSRTI Cost Estimate (millions)	Amount Obligated in FY 2003 (millions)
<b>Sites Reported by OIG That Did Not Receive Any FY 2002 Funding</b>		
Atlas Tack - Phase 1 (Region 1- Massachusetts)	\$13	\$0.0
Elizabeth Mine (Region 1 - Vermont)	15	0.0
Jennison Wright (Region 5 - Illinois)	10	0.0
Continental Steel (Region 5 - Indiana)	28	0.0
Central Wood (Region 6 - Louisiana)	9	7.2
Hart Creosoting (Region 6 - Texas)	10	0.0
Jasper Creosoting (Region 6 - Texas)	6	0.0
<b>Sites Needing Additional Funding in FY 2003/2004</b>		
Chemical Insecticide (Region 2 - New Jersey)	\$20	\$7.3
American Creosote (Region 4 - Florida)	3	0.3
Alaric (Region 4 - Florida)	2	1.7
Solitron (Region 4 - Florida)	2	0.5
Trans Circuits (Region 4 - Florida)	1	1.0
Aircraft Components (Region 5 - Michigan)	4	4.3
Hudson Oil (Region 6 - Oklahoma)	5	4.8
Sprague Road (Region 6 - Texas)	4	4.2
10 <sup>th</sup> Street (Region 7 - Nebraska)	1	1.2
Upper Ten Mile Creek (Region 8 - Montana)	4	3.8
Basin Mining (Region 8 - Montana)	3	2.6
Frontier Hard Chrome (Region 10 - Washington)	4	6.5
<b>FY 2002 Sites Not Ready for Construction</b>		
Vasquez Boulevard/VB I-70 (Region 8 - Colorado)	\$16	\$0.0*
Davenport & Flagstaff (Region 8 - Utah)	9	0.0*
Roebbing Steel (Region 2 - New Jersey)	12	4.3
Eureka Mills (Region 8 - Utah)	28	7.2
Atlas Tack - Phase 2 (Region 1 - Massachusetts)	5	0.0
<b>Total Estimated Needs</b>	<b>\$214</b>	<b>\$56.9</b>

\* These sites received pipeline funding in FY 2003

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According to an OSRTI official, the second group of sites above – Sites Needing Additional Funding in FY 2003/2004 – represent remedial construction projects started in FY 2002 that required additional funding in subsequent years. The cost estimates reflect the regions' estimate of need for these projects as reflected in OSRTI's initial FY 2003 funding decision of October 30, 2002. According to OSRTI, additional funding for the Chemical Insecticide Site is planned for FY 2004.

Concerning the sites listed in the FY 2002 Sites Not Ready for Construction category, the OSRTI official indicated that these five sites were reviewed by the National Risk Based Priority Panel. The regions subsequently determined that these sites were not ready for remedial funds in FY 2002. For example, our October 25, 2002, letter indicated that a delay in signing the Record of Decision for the Vasquez Boulevard site delayed construction.



Enclosure 7

## ***OIG Response to Attachment Question 2***

**Question 2** - Please identify each site in FY 2002 where funds were obligated, the date and the amount of obligation, and each site where funds were actually expended in FY 2002 and the date and amount of expenditures. Also indicate for each site the amount of obligated funds which were not expended in FY 2003. Please indicate if each site is on target with the timeline set forth in the Record of Decision.

**OIG Response** - The charts on the following pages show the date and amount of obligations for non-Federal Remedial Action and Long-term Response Action sites considered for funding in FY 2002. The charts show the amount obligated and the date for FY 2002 obligations as well as the total expenditures for FY 2002 and the corresponding year of obligation. The information provided is only for those sites identified in our October 25, 2002, letter. OSRTI records show expenditures for other remedial action and LTRA sites that did not have obligations during FY 2002.

The OIG has not independently verified the FY 2002 obligation and expenditure information supplied by OSRTI officials. Information on obligated funds not expended at the end of FY 2003 for certain sites are in enclosures 1 through 4. The remaining data is included on the enclosed disk. Information on the sufficiency of FY 2003 site-specific funding is presented on pages 4 through 10 of this letter.

ENCLOSURE 7 - OBLIGATION AND EXPENDITURE  
INFORMATION FOR REMEDIAL ACTION AND LTRA  
SITES INCLUDED IN OIG'S OCTOBER 25, 2002 LETTER

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## Region 1 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated		Special	State SF	Total FY02		Total FY02
				Amount from	Date	Accounts	Contracts	Amount Obligated	Expenditures ****	
				HQ RA AOA**	Date			(sum of prior 3 columns)	Amount	Year of Obligation
1	MA	MAD980731335	New Bedford Site	\$6,441,026	09/27/2002	\$396,900	02/12/2002	7,037,926		
				100,000	09/27/2002	9,796,493	03/25/2002	9,896,493		
						2,563,133	07/03/2002	2,563,133		
						310,659	07/25/2002	310,659		
						1,100,000	09/19/2002	1,100,000		
						1,100,000	09/27/2002	1,100,000		
1	ME	MED980915474	Eastland Woolen Mill	5,000,000	03/12/2002	0	0	5,000,000		
1	NH	NHD990717647	Ottati & Goss/Kingston Steel Drum	1,000,000	01/03/2002	554,005	04/09/2002	1,554,005	\$9,925,032	2000
				2,700,000	02/12/2002			2,700,000	5,440,089	2002
				4,600,000	04/09/2002			4,600,000		
1	ME	MED981073711	Eastern Surplus	0		900,000	05/15/2002	900,000		
						900,000	09/17/2002	900,000		
<b>TOTALS</b>				\$19,841,026		\$17,621,190	\$200,000	\$37,662,216	\$15,365,121	

\*\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 2 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated		Special	State SF	Date	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02	
				Amount from HQ RA AOA**	Amount					Expenditures ****	Year of Obligation
					Accounts	Contracts				Amount	
2	NJ	NJD980504997	Burnt Fly Bog	\$20,111,271	\$0	\$0		09/30/2002	\$20,111,271	\$2,869	1990
2	NJ	NJD980484653	Chemical Insecticide Corp.	19,092,897	0	0		09/30/2002	19,092,897	7,442	1991
2	NJ	NJD094966611	Combe Fill South Landfill	1,150,000	0	0		09/30/2002	1,150,000	3,621,111	1990
2	NJ	NJ0001900281	Federal Creosote	7,600,000	0	2,000,000		02/12/2002	9,600,000	\$526,069	1999
				13,400,000	0	774,000		09/25/2002	14,174,000	12,700,662	2000
				9,970,000	0	3,096,000		09/30/2002	13,066,000	21,564,107	2001
				30,000				09/27/2002	30,000	2,690,074	2002
				5,548,872				09/30/2002	5,548,872		
2	NJ	NJD980785646	Glen Ridge Radium Site	8,250,000	0	1,750,000		09/25/2002	10,000,000	3,720,735	2000
2	NJ	NJD980654164	Montgomery Township Housing Dev.	2,000,000	0	0		09/30/2002	2,000,000		
2	NJ	NJD980654156	Rocky Hill Municipal Well	2,000,000	0	0		09/30/2002	2,000,000		
2	NJ	NJD073732257	Roebing Steel Co.	2,400,000	0	0		04/01/2002	2,400,000	2,253,101	2000
				1,300,000				09/30/2002	1,300,000	2,486,301	2001
										1,376,642	2002
2	NJ	NJD980654172	U.S. Radium Corp.	3,000,000	0	1,840,000		09/30/2002	4,840,000	111,944	1997
				3,160,000					3,160,000	756,195	1998
										1,589,706	2000
										7,506,080	2001
2	NJ	NJD002385664	Vineland Chemical Co., Inc.	9,200,000	0	800,000		04/10/2002	10,000,000	2,192,190	1999
										446,761	2000
										268,182	2001
2	NJ	NJD986620995	Welsbach & Gen. Gas Mantle (Camden)	7,000,000	0	0			7,000,000	16,624	2000
										3,848,683	2001
2	NY	NYD981566417	GCL Tie & Treating Inc.	2,520,000	0	480,000		09/03/2002	3,000,000	14,661	2000
2	NY	NYD986882660	Li Tungsten Corp.	1,000,000	0	0		05/06/2002	1,000,000	9,616	2000
				1,500,000	0			05/20/2002	1,500,000	539,777	2002
2	NY	NY0001233634	Little Valley	0	0	114,000		07/16/2002	114,000	18,735	2000
										16,705	2001
2	NY	NYD986950012	Mohonk Road Industrial Plant	250,000	0	0		09/30/2002	250,000	181,002	2000
										173,006	2001
2	NY	NYD980528657	Olean Well Field	1,400,000	0	0		09/30/2002	1,400,000	3,916	1998
2	NY	NYD047650197	Stanton Cleaners Area Ground Water	330,000	0	0		09/30/2002	330,000	48,533	2000
2	NY	NYD980763767	Vestal Water Supply Well 1-1	1,286,800	0	0		09/06/2002	1,286,800	228,680	2001
										467	1990
2	VI	VID982272569	Tutu Wellfield	5,600,000	0	0		09/23/2002	5,600,000	490	1991
				TOTALS	\$129,099,840	\$0	\$10,854,000		\$139,953,840	\$68,921,066	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 3 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	State SF Contracts	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures ****	
									Amount	Year of Obligation
3	PA	PAD980538649	Berkley Products	\$257,187	03/22/2002	\$0	\$0	\$257,187	\$912,106	2001
				\$4,741	05/03/2002	0	0	\$4,741		
3	PA	PAD980691794	Berks Sand Pit	23,000	08/12/2002	0	0	23,000	219,798	2000
				43,169	09/16/2002	0	0	43,169		
3	PA	PAD002338010	Havertown	300,000	02/15/2002	0	0	300,000	132,028	1999
				80,038	09/13/2002	0	0	ERR	237,690	2000
									1,337,320	2001
3	PA	PAD980829527	Walsh LF	35,000	03/29/2002	0	0	35,000	19,565	1995
									15,805	2000
									6,075	2002
3	VA	VAD003117389	Saunders Supply	114,550	09/20/2002	0	0	114,550	318,704	1996
									40,359	1999
									100	2000
<b>TOTALS</b>				\$857,685		\$0	\$0	\$857,685	\$3,239,550	

\*\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 4 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from		Special		State SF		Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures ****	
				HQ RA AOA**	Date	Accounts	Date	Contracts	Date		Amount	Year of Obligation
4	FL	FLD012978862	Alaric Area Groundwater	\$200,000	09/27/2002	\$0		\$0		\$200,000		
4	FL	FLD008161994	American Creosote Works (Pensacola)	2,471,708	09/30/2002	0		228,292	09/30/2002	2,700,000	7,500	1997
4	FL	FLD991279894	Coleman-Evans Wood Preserving Co.	4,500,000	03/19/2002	0		2,246,302	09/27/2002	6,746,302	371,852	1999
				253,698	09/27/2002					253,698	3,745,448	1999
											7,903,395	2000
4	FL	FLD004119681	Hollingsworth Solderless Terminal	50,000	02/21/2002	0		0		50,000	3,604,888	2001
											173,009	2001
											40,169	2002
4	FL	FLD045459526	Soliton Microwave	268,227	09/30/2002	0		0		268,227		
4	FL	FL0001209840	Southern Solvents, Inc.	532,542	09/25/2002	0		0		532,542		
4	FL	FLD004065546	Tower Chemical Co.	100,000	09/27/2002	0		0		100,000		
4	FL	FLD091471904	Trans Circuits, Inc.	442,846	09/27/2002	0		0		442,846		
4	GA	GAD003269578	Woolfolk Chemical Works	300,000	09/28/2002	0		0		300,000		
4	NC	NCD024644494	ABC One Hour Cleaners	300,000	09/06/2002	0		0		300,000	569,086	1996
											20,789	1998
4	NC	NCD003188828	Cape Fear Wood Preserving	10,000	08/27/2002	0		250,000	09/24/2002	260,000	238,678	1999
											98,498	1994
											1,030,512	2001
4	NC	NCD003188844	Carolina Transformer Co.	500,000	02/08/2002	0		266,559	09/30/2002	766,559	6,330	2002
				1,500,000	02/08/2002					1,500,000	1,897,669	1997
				2,276,287	09/30/2002					2,276,287	1,309,145	1999
				300,000	08/16/2002					300,000	1,889,550	2001
				200,000	08/16/2002					200,000		
4	SC	SCD980839542	Elmore Waste Disposal	57,154	09/30/2002					57,154		
				1,351	04/09/2002	0		0		1,351	273,589	2000
4	TN	TND096070396	Ross Metals Inc	50,000	05/06/2002	0		0		50,000	33,441	2001
				175,000	09/04/2002					175,000	2,605	1999
				2,825,000	08/05/2002					2,825,000	243	2000
4	TN	TND980844781	Wrigley Charcoal Plant	0		12,801	09/30/2002	0		12,801	494,404	2001
											8,077	2002
<b>TOTALS</b>				\$17,313,813		\$12,801		\$2,991,153		\$20,317,767		

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 5 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	Date	State SF Contracts	Total FY02 Amount Obligated (sum of prior 3 columns)	Notes	Total FY02 Expenditures ****	
											Amount	Year of Obligation
5	MI	IND001213503	Continental Steel Corporation	\$0		\$0		\$0	\$0	(1)		
5	MI	MID980476907	Parsons Chemical	390,921	09/17/2002	0		0	390,921			
5	MI	MI0001119106	Aircraft Components (D & L Sales)	1,500,000	09/25/2002	0		0	1,500,000			
5	MI	MID000722439	Veliscol Chemical Corp (Michigan)	928,000	12/04/2001	0		0	928,000		4,511,539	1999
				3,458,446	01/02/2002				3,458,446		810,536	2000
				3,200,000	01/02/2002				3,200,000		2,573,082	2001
				5,613,554	05/03/2002				5,613,554		4,307,294	2002
				338,812	09/27/2002				338,812			
				796,326	09/27/2002				796,326			
				2,299,305	09/27/2002				2,299,305			
				10,000	09/27/2002				10,000			
				147,250	09/27/2002				147,250			
5	MI	MID006030373	BOFORS NOBEL, INC.	0		643,096	05/09/2002	0	643,096			
						170,622	07/01/2002		170,622			
5	MI	MID985574227	Lower Ecorse Creek Dump	24,526	08/23/2002	0		0	24,526			
				25,000	08/23/2002				25,000			
5	MI	MID006031348	Peerless Plating	41,350	02/04/2002	0		0	41,350		91,944	1996
				20,000	09/19/2002				20,000		449,005	2001
5	MI	MID980794556	U.S. Aviox	20,850	09/17/2002	0		0	20,850		124,395	1999
				350,000	09/17/2002				350,000			
5	MN	MND006192694	MacGillis & Gibbs/Bell Lumber & Pole Co.	50,200	06/17/2002	0		0	50,200		10,000	1994
				198,050	07/17/2002				198,050		1,566,574	1995
				70,000	09/25/2002				70,000		105,425	2000
											91,938	2001
<b>TOTALS</b>				\$19,482,590		\$813,718		\$0	\$20,296,308		\$14,641,732	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

Notes Provided by Regional Officials:

(1) Region 5 obligated \$50,000 for site security on 01/07/02.



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## Region 6 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	State SF Contracts	Date	Total FY02 Amount Obligated (sum of prior 3 columns)	Notes	Total FY02 Expenditures ****	
											Amount	Year of Obligation
6	AR	ARD980745665	Midland Products	\$300,000	09/09/2002	\$0	\$0		\$300,000		\$159,104	2001
6	LA	LAD052510344	Delatte Metals	14,000,000	09/27/2002	0	0		14,000,000			
6	LA	LAD000239814	American Creosote Works, Inc.	155,708	09/18/2002	0	0		155,708	(1)		
6	OK	OKD082471988	Hudson Refinery	3,000,000	09/19/2002	0	0		3,000,000			
6	OK	OKD980629844	Tar Creek (Ottawa County)	5,000,000	09/23/2002	0	1,660,042	09/23/2002	6,660,042		58,487	1997
											3,652	1998
											393,847	1999
											5,641,085	2000
											4,688,079	2001
											210	2002
6	TX	TX0001399435	City of Perryton Well No. 2	2,000,000	09/24/2002	0	0		2,000,000		384,582	2000
6	TX	TXD980514996	Highlands Acid Pit	12,769	06/24/2002	0	0		12,769		212,879	2001
				62,231	09/24/2002				62,231		10,358	1999
6	TX	TX0001407444	Sprague Road Ground Water Plume	4,000,000	08/27/2002	0	0		4,000,000		24,994	2001
				<b>TOTALS</b>	\$28,530,708	\$0	\$1,660,042		\$30,190,750		\$11,577,277	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

## Notes Provided by Regional Officials:

- (1) The new amount reflects updated information received from Region 6. Region 6 made a typographical error on an earlier remedial action table provided to the OIG. The OIG previously reported in its 10/25/02 letter to the Senate Committee on Environment and Public Works that Region 6 obligated \$115,708 for the American Creosote site. The correct figure is \$155,708.

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## Region 7 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Special Accounts	Date	State SF Contracts	Date	Total FY02 Amount Obligated (sum of prior 3 columns)	Notes	Total FY02 Expenditures ****	
											Amount	Year of Obligation
7	KS	KSD981710247	57th and North Broadway St. Site	\$0	\$0		\$140,000	06/06/2002	\$140,000		\$388,775	2000
7	KS	KSD046746731	Ace Services	1,000,000		01/10/2002			1,000,000		308,845	2001
				2,000,000	0	04/18/2002	482,769	04/18/2002	2,482,769		1,147,344	2001
				2,200,000		09/18/2002			2,200,000	(1)		
7	KS	KSD980741862	Cherokee County	0	1,299	02/05/2002	0		1,299		352,977	1998
7	MO	MOD980686281	Oronogo Mining Belt	0	245,807	09/27/2002	0		245,807		145,199	1997
											152,629	1998
											1,117,259	1999
7	NE	NED981713837	10th Street Site	1,700,000	0	09/25/2002	0		1,700,000	(2)		
				<b>TOTALS</b>					\$7,769,875		\$3,613,028	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

## Notes Provided by Regional Officials:

(1) Includes \$750,000 obligated under the TC code (recertified funds) in CERCLIS.

(2) Includes \$12,500 obligated under the TC code (recertified funds) in CERCLIS.

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## Region 8 - Non-Federal NPL Remedial Action Site Funding

FY02 Obligated										Total FY02					
RG		ST		EPA ID		Site Name		Amount from		Amount Obligated		Expenditures ****		Year of Obligation	
								HQ RA AOA**		(sum of prior		Amount		Year of Obligation	
								Date		3 columns)		Notes			
								Special		State SF					
								Accounts		Contracts					
								Date		Date					
8	CO	COD980716955	Denver Radium Site	\$5,000,000	02/01/2002	\$0	\$490,000	09/30/2002		\$5,490,000			\$1,121,605	2001	
8	CO	COD983778432	Summitville Mine	\$3,000,000	09/20/2002	0	100,000	01/28/2002		\$3,000,000			1,640,450	1998	
				0						100,000			2,509,021	1999	
8	MT	MTD982572562	Basin Mining Area	1,238,984	07/26/2002	0	0			1,238,984			543,717	2001	
				30,000	06/26/2002					30,000			22,741	2002	
				30,000	07/08/2002					30,000					
8	MT	MTSFN7578012	Upper Tenmile Creek Mining Area	850,000	08/23/2002	0	0			850,000					
				50,000	08/14/2002					50,000					
				100,000	09/26/2002					100,000					
8	SD	SDD987673985	Gilt Edge Mine	1,000,000	04/22/2002	0	3,000,000	04/03/2002		4,000,000		(1)	4,362,094	2001	
				300,000	07/16/2002					300,000			29,407	2002	
				200,000	08/12/2002					200,000					
				1,375,000	08/22/2002					1,375,000					
				5,400,000	04/03/2002					5,400,000					
				500,000	09/25/2002					500,000					
				1,094,802	09/27/2002					1,094,802					
				9,040	09/27/2002					9,040					
TOTALS				\$20,177,826		\$0	\$3,590,000			\$23,767,826			\$10,229,035		

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

## Notes Provided by Regional Officials:

- (1) The total for remedial action activities at the Gilt Edge site above is \$9,878,842, which is \$10,689 less than the amount EPA OIG reported in its 10/25/02 letter to the Senate Committee on Environment and Public Works. In the 10/25/02 letter, EPA OIG reported a total of \$9,889,531 for the Gilt Edge site. Region 8 informed us that they double-counted a transaction. Because of this difference, the FY02 Obligated Amount from HQ RA AOA is smaller here than previously reported in EPA OIG's 10/25/02 letter to the Senate Environment and Public Works Committee.

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## Region 9 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Special Accounts	Date	State SF Contracts	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** Amount	Year of Obligation
9	AZ	AZD980695969	Indian Bend Wash Area	\$100,000	\$0	01/17/2002	\$0	\$100,000	\$117,124	2000
9	CA	CAD980498612	Iron Mountain Mine	1,500,000	0	01/17/2002	0	1,500,000	48	1996
9	CA	CAD029295706	Lorentz Barrel & Drum CO.	9,854,049	0	09/30/2002	0	9,854,049	6,985,489	2000
9	CA	CAD009106527	McCormick & Baxter Creosoting Co.	0	258,539	02/20/2002	0	258,539	1,256,892	2001
				1,100,000	0	03/27/2002	0	1,100,000		
				305,000	0	09/17/2002	0	305,000		
9	CA	CAD981997752	Modesto Ground Water Contamination	368,000	0	07/16/2002	0	368,000	49,843	1999
									194,158	2000
									382,921	2001
9	CA	CAD980677355	San Gabriel Valley (Area 1)	600,000	0	01/17/2002	0	600,000	6,685,070	2000
				600,000	0	07/09/2002	0	600,000	580	2001
				1,200,000	0	09/30/2002	0	1,200,000		
<b>Totals</b>				\$14,027,049	\$258,539		\$0	\$14,285,588	\$15,672,125	

\*\* - includes prior year fund obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 10 - Non-Federal NPL Remedial Action Site Funding

RG	ST	EPA ID	Site Name	FY02 Obligated		Date	Special		State SF	Total FY02		Total FY02 Expenditures ****	Year of Obligation
				Amount from HQ RA AOA**	Amount Obligated (sum of prior 3 columns)		Accounts	Contracts		Amount	Year of Obligation		
10	ID	IDD048340921	Bunker Hill Mining & Metallurgical	\$2,532	02/27/2002	\$0	\$0	\$0	\$2,532	\$2,993,234	1998		
				\$1,150,000	05/13/2002				\$1,150,000	1,758,803	1999		
				\$39,425	04/10/2002				\$39,425	1,061,290	2000		
				\$3,000,000	06/21/2002				\$3,000,000	958,471	2001		
				\$4,700,000	09/25/2002				\$4,700,000	2,350	2002		
				\$4,350,000	09/25/2002				\$4,350,000				
				\$450,000	09/27/2002				\$450,000				
10	OR	ORD009020603	McCormick & Baxter Creos. Co. (Portland)	4,000,000	08/09/2002	0	0	0	4,000,000	277,133	1998		
10	WA	WAD053614988	Frontier Hard Chrome, Inc.	250,000	09/30/2002	0	0	0	250,000				
				280,000	09/30/2002				280,000				
10	WA	WAD009248295	Wyckoff Co./Eagle Harbor	800,000	02/01/2002	0	0	0	800,000	10,787	1999		
				3,800,000	05/13/2002				3,800,000	149,784	2000		
										4,773,785	2001		
										627,801	2002		
10	WA	WAD0000026534	Palermo Well Field Ground Water Contamin	826	02/01/2002	0	0	0	826	25,478	2000		
				22,099	04/10/2002				22,099	87,896	2001		
				1,819	08/20/2002				1,819	2,205	2002		
				822	08/20/2002				822				
				96,446	09/27/2002				96,446				
TOTALS				\$22,943,969		\$0	\$0	\$0	\$22,943,969	\$12,729,017			

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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Region 1 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	Date	State SF Contracts	Date	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** (Year of Obligation)
1	MA	MAD003809266	Charles-George Reclamation Trust Landfill	\$0		\$0		\$47,939	08/06/2002	\$47,939	46,476 1999 26,106 2000
1	MA	MAD0001041987	Baird & McGuire	200,170	09/27/2002	0		3,500,000	08/19/2002	3,700,170	103,584 1999 1,937,000 2000
1	MA	MAD980732317	Groveland Wells	0		0		400,000	07/01/2002	400,000	454,382 2001
1	MA	MAD000192393	Sitresim Chemical Corp.	0		600,000 150,000	03/25/2002 07/03/2002	0		600,000 150,000	
1	NH	NHD062002001	Kearsarge Metallurgical Corporation	340,349	07/26/2002	0		137,423	07/26/2002	477,772	147,497 2000 90,619 2001
1	NH	NHD980503361	Mottolo Pig Farm	0		0		21,537	09/26/2002	21,537	15,973 1997 102,352 2001
				<b>TOTALS</b>	\$540,519	\$750,000		\$4,106,899		\$5,397,418	\$2,923,989

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 2 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Special Accounts	Date	State SF Contracts	Date	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** Amount	(Year of Obligation)
2	NJ	NJD063157150	Bog Creek Farm	\$500,000	\$0	09/27/2002	\$200,000	09/27/2002	\$700,000	147,654	1998
2	NJ	NJD980529085	Ellis Property	2,699,790	0	09/30/2002	0		2,699,790	133,757	1997
2	NJ	NJD053280160	Garden State Cleaners	450,000	0	09/26/2002	50,000	09/26/2002	500,000	4,664	2001
2	NJ	NJD981490261	Higgins Farm	900,000	0	03/26/2002	0		900,000	385,251	2001
2	NJ	NJD980505416	Lipari Landfill	0	4,500,000 200,000 750,000	01/09/2002 01/11/2002 06/12/2002	0		4,500,000 200,000 750,000		
2	NJ	NJD980766828	South Jersey Clothing Co.	450,000	0	09/26/2002	50,000	09/26/2002	500,000		
2	NJ	NJD002385664	Vineland Chemical Co., Inc.	4,000,000	0	04/08/2002	0		4,000,000	3,512,885	2001
2	NY	NYD002066330	American Thermostat Co.	1,500,000	0	09/24/2002	0		1,500,000	604,357	2000
2	NY	NYD980652275	Brewster Wellfield	676,000 174,000	0	02/27/2002 09/30/2002	24,000	02/27/2002	700,000 174,000	429,842 3,832	2000 2002
2	NY	NYD981184229	Circuitron Corp.	390,000	0	09/27/2002	160,000	09/27/2002	550,000	207,055	2001
2	NY	NYD002044584	Claremont Polychemical	580,000 420,000	0	05/13/2002 09/30/2002	0		580,000 420,000	439,812 301,196	2001 2002
2	NY	NYD986950012	Mohonk Road Industrial Plant	350,000	0	09/30/2002	0		350,000	353,355	2001
2	NY	NYD001533165	SMS Instruments, Inc.	200,000 100,000	0	01/24/2002 09/20/2002	0		200,000 100,000	5,161 15,053 200,000 37,967	1997 2000 2001 2002
2	NY	NYD047650197	Stanton Cleaners Area GW Contaminator	150,000	0	09/30/2002	0		150,000		
2	NY	NYD980763767	Vestal Water Supply Well 1-1	213,200 100,000	0	03/04/2002 04/03/2002	186,800	03/04/2002	400,000 100,000	236,003	1999
<b>TOTALS</b>				\$13,852,990	\$5,450,000		\$670,800		\$19,973,790	\$7,017,844	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

Notes Provided by Regional Officials:



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## Region 3 - Non-Federal NPL Sites with Long-Term Response Actions

				FY02 Obligated			Total FY02			Total FY02	
		Amount from		Special		State SF		Amount Obligated		Expenditures ****	
RG	ST	EPA ID	Site Name	HQ RA AOA**	Date	Accounts	Contracts	(sum of prior	3 columns)	Amount	(Year of Obligation)
3	PA	PAD980691794	Berks Sand Pit	\$133,903	09/30/2002	\$0	\$0	\$0	\$133,903		
3	PA	PAD981034705	Butz LF	200,000	08/12/2002	0	0	0	200,000	17,892	1999
										175,473	2001
3	PA	PAD002360444	Cryochem, Inc.	200,000	04/12/2002	0	0	0	200,000	90,900	2000
				50,000	09/25/2002				50,000	80,135	2001
3	PA	PAD002338010	Havertown PCP	220,000	08/13/2002	0	0	0	220,000	4,804	2002
3	PA	PAD002390748	Hellertown Manufacturing Co.	60,000	02/26/2002	0	0	0	60,000	190,166	2000
				75,000	04/17/2002				75,000	21,772	2002
				75,000	09/24/2002				75,000		
3	PA	PAD039017694	Raymark	150,000	09/24/2002	0	0	0	150,000	65,029	2000
3	VA	VAD003125374	Greenwood Chemical Co.	350,000	01/14/2002	0	0	0	350,000	613,080	2000
										25,000	2001
										104,210	2002
3	VA	VAD003117389	Saunders Supply	200,000	09/20/2002	0	0	0	200,000	237,488	2001
TOTALS				\$1,713,903		\$0	\$0		\$1,713,903	\$1,625,949	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 4 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	Date	State SF Contracts	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** (Year of Obligation)
4	KY	KYD980602155	Distler Brickyard	\$0		\$200,000	09/17/2002	\$0	\$200,000	
4	NC	NCD981026479	Benfield Industries, Inc.	100,000	05/07/2002	0		0	100,000	3,402 2002
4	SC	SCD980839542	Elmore Waste Disposal	150,000 36,938	04/27/2002 09/17/2002	0		0	150,000 36,938	
4	SC	SCD003362217	Palmetto Wood Preserving	150,000	05/14/2002	0		0	150,000	
<b>TOTALS</b>				\$436,938		\$200,000		\$0	\$636,938	\$3,402

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 5 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	State SF Contracts	Date	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** Amount (Year of Obligation)
5	MI	MID060174240	Ott/Story/Cordova Chemical Co.	925,711	09/25/2002	0	1,574,289	09/25/2002	2,500,000	1,678,578 2000 770,115 2001
5	MI	MID006031348	Peerless Plating Co.	258,650	02/04/2002	0	0		258,650	23,080 2001
5	MI	MID980701247	Wash King Laundry	520,000	03/26/2002	0	0		520,000	
5	MN	MND980904072	Long Prairie Groundwater Contamination	450,000	06/20/2002	0	0		450,000	354,000 1999
5	MN	MND006192694	MacGillis & Gibbs/Bell Lumber & Pole Co.	500,000	12/04/2001	0	0		500,000	542,000 2001 282,393 2002
5	WI	WID006100275	Oconomowoc Electroplating Co., Inc.	89,972	02/07/2002	0	0		89,972	319,797 2000 236,317 2001
5	WI	WID980821656	Onalaska Municipal Landfill	103,281	05/24/2002	0	0		103,281	132,010 1997 60,166 1998
5	WI	WID0006176945	Penta Wood Products	400,000	01/02/2002	0	0		400,000	473,654 2001 331,052 2002
<b>TOTALS</b>				\$5,869,123		\$0	\$1,574,289		\$7,443,412	\$5,203,162

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 6 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	State SF Contracts	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** Amount	(Year of Obligation)
6	LA	LAD000239814	American Creosole	\$625,000 \$135,649	07/22/2002 09/30/2002	\$0	\$0	\$625,000 \$135,649	114,834	2001
6	NM	NMD980749378	Cimarron Mining Corp.	150,000	09/23/2002	0	0	150,000		
6	OK	OKD007188717	Double Eagle Refinery Co.	62,500	09/25/2002	0	0	62,500		
6	OK	OKD980696470	Fourth Street Abandoned Refinery	62,500	09/25/2002	0	0	62,500		
<b>TOTALS</b>				\$1,035,649		\$0	\$0	\$1,035,649	\$114,834	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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Region 7 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Special Accounts	State SF Contracts	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** Amount	(Year of Obligation)

Note: Neither Region 7 nor OSRTI listed any LTRA sites with FY 02 obligations

\*\*Includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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## Region 8 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	Date	State SF Contracts	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** Amount (Year of Obligation)
8	CO	COD980717557	Central City/Clear Creek	\$1,100,000	04/23/2002	\$0		\$0	\$1,100,000	142,991 3,000 2000 2002
8	CO	COD007431620	Chemical Sales	0		800,000	05/06/2002	0	800,000	22,646 1999
8	CO	COD983778432	Summitville Mine	0		2,100,000 5,000 252,300	03/08/2002 05/17/2002 08/15/2002	0	2,100,000 5,000 252,300	335,672 2001
8	SD	SDD987673985	Gilt Edge Mine	19,982	11/28/2001	0		0	19,982	192,520 29,651 2001 2002
<b>TOTALS</b>				\$1,119,982		\$3,157,300		\$0	\$4,277,282	\$726,480

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

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Region 9 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special Accounts	Date	State SF Contracts	Date	Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** (Year of Obligation)
9	CA	CAD095989778	Fairchild Semiconductor Corp.	\$0		\$36,975	09/26/2002	\$0		\$36,975	
9	CA	CAD981434517	Newmark Ground Water Contamination	750,000	06/27/2002	0		0		750,000	2000
9	CA	CAD029452141	Selma Treating Co.	603,095	07/22/2002	0		500,000	09/25/2002	1,103,095	
9	CA	CAD0902527	Modesto Ground Water Contamination								1999
<b>TOTALS</b>				\$1,353,095		\$36,975		\$500,000		\$1,890,070	\$884,706

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.



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Region 10 - Non-Federal NPL Sites with Long-Term Response Actions

RG	ST	EPA ID	Site Name	FY02 Obligated Amount from HQ RA AOA**	Date	Special		State SF		Total FY02 Amount Obligated (sum of prior 3 columns)	Total FY02 Expenditures **** (Year of Obligation)	
						Accounts	Contracts	Accounts	Contracts		Amount	Year of Obligation
10	WA	WAD980726301	Commencement Bay, South Tacoma Channel	\$400,000	08/14/2002	\$0	\$0	\$0	\$0	\$400,000	499	1999
				\$444,031	09/27/2002					\$444,031	8,806	2000
				\$59,300	09/27/2002					\$59,300	16,475	2001
TOTALS				\$903,331		\$0	\$0	\$0	\$0	\$903,331	\$25,780	

\*\*includes prior year fund appropriation obligations

\*\*\*\*The amounts in this column do not relate to the obligation information on the same line.

### ***OIG Response to Attachment Question 3***

**Question 3** - In your October 25, 2002, report you reported that the final need was the same as or equal to the total amount obligated for FY 2002 at many sites where it was significantly less than the initial requested amount. Please provide any documentation that substantiates the EPA claims and identify where there were discrepancies between the information you received from the remedial project managers and Headquarters.

**OIG Response** - Our October 25, 2002, letter stated that Office of Emergency and Remedial Response officials (now OSTRI) indicated to us that managing uncontrolled hazardous waste sites is inherently uncertain in nature, and site funding needs change frequently based on dynamic site conditions (see page 2 of our letter). In analyzing the financial information obtained in preparation for our October 2002 letter, we noted that EPA had obligated funds for certain sites well above the amount requested at the start of FY 2002. In contrast, some sites, for which funds were originally requested, received no funding at all. For example, Region 1 originally requested \$10,000,000 for the New Bedford site for FY 2002, but by the end of the fiscal year had obligated \$22,008,211, the majority of which came from available funds supplied by PRPs in accordance with Consent Decrees. Also, Region 6 initially requested \$9,880,000 for the Hart Creosoting site but did not receive any funding for this site. OSRTI officials told us that amounts the regions request for sites at the beginning of a fiscal year are “planning estimates.” Thus, the question arose for the OIG as to what EPA’s “real funding need” was for each of the remedial and LTRA sites during FY 2002.

To provide some perspective on this issue, at the end of our field work we asked regional Superfund officials to provide the final FY 2002 need for each site. We asked regional officials to indicate an amount for “Final Site Need for FY 2002” on our spreadsheets which became part of our working papers. Given time constraints, we did not request any other supporting documentation. The information provided by regional officials is reflected in the column “Final Site Need for FY02” in enclosures 1 and 2 of our October 25, 2002, letter.

During our review, an OSRTI official indicated that he disagreed with Region 5 on the amount needed for the Continental Steel Corporation site. Region 5 indicated that its final FY 2002 need was \$28.5 million. According to a Region 5 official, this estimate reflected the operating “ground rules” for the Superfund program that a region receives the full Federal share for new construction starts. The OSRTI official maintained that the Region did not need all \$28.5 million in FY 2002 given the multi-year nature of this project. That official maintained that the site could be addressed by allocating approximately \$10 million per year over a 3-year period. The Region 5 official agreed that all \$28.5 million would not have been spent in the first year of construction but did not believe that the “ground rules” had been changed to support an incremental funding approach. The Region 5 official added that the danger with incremental funding is that future funding may not be available when needed to complete the project.

## ***OIG Response to Attachment Question 4***

**Question 4** - Please describe the budget formulation and funding process for FY 2003 for Superfund activities, focusing on remedial investigation, remedial design, remedial construction, and long-term response actions. Please describe the budget formulation and funding process for FY 2002 for these same activities. Please describe any changes to the budget and funding process from FY 2002 to FY 2003. Please provide any background documentation and memos.

**OIG Response** - OSRTI provided the following information:

EPA manages the allocation of Superfund resources using an AOA structure. For the remedial program, response resources (exclusive of payroll, travel and working capital fund) from the Superfund appropriation are placed in two AOAs. The **Remedial Action AOA** provides resources for remedial action construction, non-time critical removal construction, LTRAs (e.g., ground water restoration), and five-year reviews scheduled to be performed during the year. These actions are taken at sites on the Superfund NPL. The **Pipeline Operations AOA** provides resources for a wide variety of program activities including site assessment, remedial investigation/feasibility study, remedial design, oversight of responsible party cleanups, community involvement (including technical advisor grants), State involvement, and contracts management. The budget and funding process varies significantly for each AOA.

### **FY 2003 Budget and Funding Process**

#### ***Remedial Action AOA***

The resources planning and management process for Superfund cleanup construction projects is an ongoing effort throughout the fiscal year. Resources for construction projects are provided from the Remedial Action AOA and from the deobligation of unexpended funds from prior years. The highest priority for funding is given to “ongoing” projects with resource needs, including ongoing construction projects with resource needs to maintain progress or achieve completion, LTRA, and five-year reviews scheduled to be performed during the year. After ongoing construction needs are met, any remaining resources from the Remedial Action AOA and deobligations are allocated to sites where new cleanup construction projects are ready to proceed.

EPA began the Remedial Action funding process for FY 2003 during July/August 2002. A work planning memorandum was issued to the EPA Regional Offices on June 28, 2002. The memorandum asked the Regions to identify funding needs for ongoing remedial actions and LTRAs and for five-year reviews. The memorandum also requested that the regions

complete project evaluation forms for each ongoing remedial action project and each LTRA project (with an estimated annual cost exceeding \$600,000) requiring funding during FY 2003. These forms were intended to provide a brief description of the project and the projected resource need for the year. Using the project evaluation forms as well as reports pulled from the Superfund information management system, CERCLIS, initial resource requests for ongoing construction projects were identified, as well as candidates for new start construction expected to be ready to begin work during the fiscal year that the Region planned to present to the National Risk Based Priority Panel (see description below). A conference call was subsequently scheduled with each Region to review their funding request for each site/project. These discussions confirmed the resource estimates, the timing (fiscal quarter) when resources were needed, and whether other sources of funding were potentially available for the site/project (e.g., reimbursable resources from State cost share payments or responsible party settlement resources). A preliminary estimate of potential deobligations also was obtained from each Region. Most ongoing projects require a relatively small amount of funding and are readily approved at the amount requested by the Regional Office, while the larger, higher cost projects undergo a more detailed review. Factors considered in this review include the specific scope, status, and resource needs of the project, the total resource needs for all cleanup projects, the available budget for cleanup construction work from the Superfund appropriation, and other potential sources of funding. The goal of the program is to provide the resources required to maintain cleanup progress during the year. This allocation may be less than the amount initially requested by the Regional Office.

Concurrent with the work planning process, senior managers in EPA Headquarters, in consultation with the Superfund Directors in the Regions, considered options for increasing the available funding for cleanup construction. After extensive deliberations, a decision was made to transfer \$10 million from the Pipeline Operations AOA to the Remedial Action AOA. In addition, the Superfund deobligation policy was revised to direct a larger portion of deobligation resources to the National Deobligation Pool for construction funding. These adjustments were required to meet the growing need for resources for cleanup construction.

The FY 2003 Remedial Action AOA funding level, the Superfund deobligation policy, and the initial funding plan for ongoing remedial action needs were issued in a memorandum to the Regions on October 30, 2002. The Remedial Action AOA was tentatively set at \$230 million (subsequently reduced to \$227.8 million based on the final appropriation received from Congress and the proposed Agency Operating Plan). The deobligation policy was set with 25 percent of the resources retained by the Regions for regional priorities and 75 percent returned to Headquarters for national priorities, including funding for remedial action needs. Deobligation resources returned to Headquarters are placed in a reserve account called the National Deobligation Pool and remain available through the year until reprogrammed back to a Region for a specific project. The initial funding plan designated over \$220 million from the Remedial Action AOA for more than 180 projects with ongoing funding needs (including cleanup construction projects, LTRA's and five-year reviews).

Resources were provided to the Regional Offices as funding became available during the continuing resolution periods and after enactment of the appropriation, largely in accordance with the funding plan. During the course of the year, the Regional Offices refined their project needs as cleanup work progressed in the field, and EPA Headquarters adjusted the initial allocations as needed. A comprehensive review was conducted at mid-year and a revised plan reflecting the updated regional needs was issued on June 5, 2003. Resources were issued in accordance with the plan over the remainder of the fiscal year.

Concurrent with the work planning process for ongoing projects, EPA Headquarters asked the Regional Offices to submit new start construction project candidates for consideration by the National Risk Based Priorities Panel. EPA established this Panel to review and evaluate Superfund cleanup construction projects that are expected to be ready to proceed during a fiscal year. The Panel is comprised of national program experts from each EPA Regional Office and Headquarters. The panel uses the following factors to evaluate each project:

- Risk of human exposure;
- Stability of the contaminant;
- Characteristics of the contaminant, including concentration and volume;
- Ecological risk; and
- Program Management considerations, such as whether (1) innovative technologies can be employed, (2) design is complete, (3) the State's share of cleanup costs is available; (4) environmental justice concerns are present, and (5) economic redevelopment may occur.

Each factor receives a score of from 1 to 5 and the project's overall score is arrived at by adding the raw scores multiplied by the weight of each factor. For FY 2003, 35 projects were reviewed by the Panel.

New start construction projects are funded depending on the availability of resources. Priorities are set based on the relative risk posed by the site as determined by the Panel, and the potential for achieving construction completion. Based on a projection of available resources, largely from the deobligation of unexpended prior year resources, EPA designated 11 projects to receive construction funding during FY 2003. (OIG Note: one of the projects received removal funds and another project received pipeline funds.)

#### ***Pipeline Operations AOA***

EPA Headquarters and the Regional Offices engage in a work planning process for Pipeline AOA resources, but the critical difference is that Pipeline resources are not allocated to the Regions on a site/project-specific basis. For FY 2003, the Pipeline Operations AOA funding level was initially set at \$190 million (after \$10 million was shifted to the Remedial Action AOA to augment the construction budget). Similar to the Remedial Action

AOA, Pipeline funding was subsequently reduced to \$187 million following enactment of the Superfund appropriation.

The Pipeline Operations AOA resources are distributed among the Regions based on the Pipeline Allocation Model. A portion of the allocation is based on historical allocations and the remaining portion is based on a work-based scoring system. The work-based scoring system contains such factors as the number of completed actions, ongoing actions, and planned actions. Weights are assigned to the categories and differ depending on whether (1) the action will be funded with Federal funds or by the responsible parties, (2) the site is considered a mega site, or sites with estimated costs of \$50 million or more, and (3) the site is on the NPL. The various weights are used to calculate a work-based amount for each region. For FY 2003, the work planning memorandum issued to the Regions on August 12, 2002, provided general guidance regarding OSRTI's projections of the funding that would be available to the Regions through the Pipeline Operations AOA. Using this information, each Region planned for the use of its budget, entering its planned obligations and accomplishments for certain actions (e.g., remedial investigations/feasibility studies, remedial design, and oversight) into CERCLIS/WasteLAN. Pursuant to work planning discussions conducted during October/November 2002, EPA Headquarters refined resource allocation projections based on the Pipeline Allocation Model and Regions finalized their planned accomplishments in CERCLIS/WasteLAN. As a result of uncertainties due to the appropriation continuing resolutions, delays in obtaining an Agency Operating Plan, and concerns regarding the availability of funds for construction, Headquarters finalized its decision for distributing the Pipeline Operation AOA in April 2003.

### **FY 2002 Budget and Funding Process**

The Remedial Action AOA planning and resource allocation process for FY 2002 was largely the same as described above. The methodology for allocating Pipeline AOA resources in FY 2002 was also substantially similar to that of FY 2003.

### **Process Changes from FY 2002 to FY 2003**

Process changes from FY 2002 to FY 2003 include the following:

- The Remedial Action AOA was increased by \$10 million for FY 2003 and the Pipeline Operations AOA reduced by \$10 million to address the increased need for cleanup construction funding. This decision, as well as the decision on the deobligation policy, was reached after extensive consultation with the regional Superfund Division Directors.
- The Superfund deobligation policy was revised for FY 2003 to allocate a higher percentage of regional deobligations for cleanup construction to the national deobligations pool. This allocation was increased from 50 percent for FY 2002 to 75 percent for FY 2003.

- For FY 2003, work planning discussions between OSRTI and the regions for cleanup construction were done separately from the work planning discussions on all other program activities. In prior years, construction resource discussions between OSRTI and the regions took place during the first quarter of the fiscal year as part of the work planning sessions. Because the construction resource discussions for FY 2003 began in the summer of 2002, OSRTI and the regions were able to conduct a more thorough review of regional needs. Because these discussions took place sooner than in prior years, OSRTI was able to issue its initial funding plan early in the fiscal year – on October 30, 2002.
- Although not a change in policy, OSRTI issued a memorandum to the Regions on September 20, 2002, reinforcing the need to explore all enforcement options prior to proceeding with a fund-financed cleanup construction project. The memorandum was released during FY 2002, but had its most practical affect during FY 2003.
- The Pipeline Allocation Model was adjusted for FY 2003, including giving greater weight to the number of pipeline actions completed in the prior year and giving more money to those regions that met or exceeded 80 percent of their planned starts for the previous fiscal year.
- The extended Continuing Resolution periods during FY 2003 resulted in increased control over the allocation of funds to the Regions from both the Pipeline operations and Remedial Action AOAs to ensure critical needs could be met within the limited cash flow of Continuing Resolution funding. Because each Continuing Resolution lasted for a specified period of time and only allowed a limited amount of funding to be used, OSRTI and the regions held discussions during each Continuing Resolution to discuss funding needs and craft a funding plan for that Continuing Resolution.
- The FY 2002 Superfund appropriation included a provision that \$100 million of the appropriated amount was not available until September 1, 2002 (referred to as the \$100 million hold-back). The hold-back was allocated \$60 million to the Remedial Action AOA and \$40 million to the Pipeline Operations AOA. As a result, these resources were not provided to the regional offices until after September 1, 2002. Congress did not include this provision in the FY 2003 appropriation, allowing the Agency more flexibility in allocating resources and funding projects.

Copies of memoranda relating to FY 2002 and FY 2003 processes are attached.



## ***OIG Response to Attachment Question 5***

**Question 5** - In your October 25, 2002, report you stated that Headquarters staff emphasized that one of the additional practices that helps conserve Superfund resources was “tightening the criteria for NPL listing.” Please specify these new criteria and indicate which sites may, have been, or will be affected or had their listing affected by the new criteria.

**OIG Response** - OSRTI provided the following information:

In considering sites for inclusion in the April 2003 proposed National Priorities List Rule, OSRTI used a tiering system as an additional component of the internal deliberative process. The tiering system used risk to human health/environment and urgency for cleanup as the two main factors. The sites were tiered by OSRTI staff and representatives from EPA’s ten Regions.

Generally, the Tiers used were as follows:

- Tier A:** Current actual human exposure (measurable with appropriate sampling/analytical data) to resident population, or students at schools/daycare, and Superfund remedial action is needed near term (e.g., within 10 years).
- Tier B:** Current actual human exposure to any population residents/students/workers/trespassers) and Superfund remedial action is needed in the long term (e.g., more than 10 years).
- Tier C:** Human exposure has occurred in the past, but current risk management practices are adequate for the interim, or potential human exposure above screening/cleanup levels is a reasonable scenario in the future.
- Tier D:** No current/past human exposure. Possible future human exposure or contaminated sensitive environments, or there are known State endangered species habitats within the target distance limit (TDL).
- Tier E:** Contaminated ground water, surface water, soils, or air; no projected potential human exposure or projected exposures below screening/cleanup levels; no direct threat to sensitive environments.



Once the sites potentially eligible for the April 2003 NPL update were identified by EPA regions, the sites were selected for further evaluation by taking the Tiers into account. In selecting sites for this rule, EPA considered, in addition to the Tiers:

- the need for a strong enforcement program through cleanups conducted or financed by PRPs;
- the level of State, tribal, community, and congressional delegation support;
- estimated cleanup costs;
- the timing of the costs and cleanup;
- environmental justice issues;
- prospects for commercial redevelopment; and
- geographic balance.

An OSRTI official indicated that cleanup costs and timing were considered in the aggregate (e.g., the costs for all Tier A and B sites were presented as an option to management) and were not the cause for a final decision on any site. The official indicated that while the regions had considered the factors above for past rulemakings, this was the first time factors other than legal defensibility had been considered by Headquarters. These considerations resulted in proposing 14 sites (out of 30 sites identified by the regions) to the NPL on April 30, 2003 (68 FR 23094).

The 14 sites proposed were as follows:

**Proposed Rule No. 39, General Superfund Section**

State	Site name	City/county
CA	AMCO Chemical	Oakland
CO	Captain Jack Mill	Ward
MD	68th Street Dump	Baltimore
MO	Madison County Mines	Fredericktown
MO	Newton County Mine Tailings	Newton County
NC	Ram Leather Care	Charlotte
NH	Troy Mills Landfill	Troy
NJ	Rolling Knolls Landfill	Chatham Township
NJ	Standard Chlorine Chemical Company, Inc.	Kearny
NJ	White Swan/Sun Cleaners GW Contamination	Wall Township
OH	Armco Inc., Hamilton Plant	Hamilton
OH	Peters Cartridge Factory	Kings Mills
TX	Conroe Creosoting Company	Conroe
TX	Jones Road Ground Water Plume	Harris County

(EPA considers the 16 sites not proposed to be deliberative and enforcement-sensitive information. Seven sites were added to the NPL in April 2003, but these sites related to prior

rulemakings and thus were not evaluated using the tiering process described above. Final listing decisions concerning the 14 sites will occur after the public comment period closes and all relevant comments are considered and addressed.)

The tiering process only aided in identifying sites that should be a priority for further evaluation. Sites initially identified as candidates for proposed listing may not ultimately be proposed for listing for several reasons. Further technical, legal and policy review may indicate that certain sites are not ready for proposed listing. For example, EPA postponed decisions on some sites because States requested additional time to negotiate cleanup agreements or, alternately, EPA plans to negotiate cleanup agreements under the Superfund Alternative Sites approach. (Under the Superfund Alternative Sites policy, the listing process is suspended while responsible parties are given an opportunity to enter into an agreement to clean up the site in the same manner as if the site were listed.) Other EPA policies that may affect the decision to propose listing a site on the NPL include EPA's Resource Conservation and Recovery Act deferral and State deferral policies. According to OSRTI officials, the Agency will consider all sites identified by the regions as eligible for listing for future NPL proposed rules. While OSRTI will obtain information on the factors indicated above for the next proposed rulemaking, it has not decided how this information will be used.

(OIG note: The U.S. General Accounting Office discussed the tiering process on page 29 of its July 2003 report, "Superfund Program: Current Status and Future Fiscal Challenges," GAO-03-850.)

## ***OIG Response to Attachment Question 6***

**Question 6** - The October 25<sup>th</sup> report indicates that \$95 million was de-obligated from prior year funding and used in FY 2002. Please identify the sites where the funding came from, identify the work the funding was reserved for, and indicate whether it was replaced or needs to be replaced in future years. Also, please indicate to what extent the EPA will be able to find significant amounts of additional prior year funding to de-obligate and use in FY 2003.

**OIG Response** - OSRTI reported that a total of \$85 million of FY 2003 obligations were from prior-year funds. The enclosed disk contains information each region provided for all deobligations during FY 2002. The information indicates where the funds were taken from and the region's comments on whether these activities would require funds to address any remaining needs. As a general rule, regional officials indicated that they did not have a need to replenish the funds deobligated from the activities indicated. Since the regions reported all deobligations, the total for the deobligations will exceed the \$95 million obligated to remedial actions in FY 2002. The OIG did not confirm the accuracy of the information provided by the regions. As an example, we are providing the information submitted by Region 6, the Region with the greatest total deobligations for FY 2002.

<b>Amount De-obligated in FY 2002</b>	<b>Site from Which Funds Were De-obligated</b>	<b>Activity from Which Funds Were De-obligated</b>	<b>Note</b>
\$21,430,712.00	Popile	Remedial Action	1
47,550.00	Brio	Technical Assistance Grant	1
150,805.00	Southern Shipbuilding	Remedial Action	1
1,018.00	Small Purchase Order for GP		1
8,233.13	North Railroad Plume	Management Assistance	2
47,593.00	Training	Non Site Specific	2
103,763.07	General Support	Removal	2
61,495.92	General Support	Remedial	2
181,023.00	PA/SI	Non Site Specific	2
30,602.87	Core Program	Non Site Specific	2
1,991,250.68	Madisonville	Remedial Action	3
330,000.00	All Indian Pueblo Council Coop Ag	PA/SI	4
301,492.00	All Indian Pueblo Council Coop Ag	Core	4
50,000.00	North Railroad Ave Plume	Management Assistance	4
75,000.00	North Railroad Ave Plume	HRS Pilot	4
21,884.00	Lockheed Martin ESAT Contract	Data Validation	4
500,000.00	DOT Interagency Agreement	Emergency Response Support	4
27,353.00	RSR	Management Assistance	4
26,726.08	Ecology &Environment (START)	Removal Support Assessment	4
92,994.54	Ecology &Environment (START)	Removal Support Assessment	4
83,477.39	Quinton Smelter	Removal	4
491,862.00	Odesa Chromium I	Remedial Action	4
450,000.00	Ice House Drums	Removal	4
13.45	Edmond Streets (S Valley)	RI/FS oversight	4
13.93	Dixie Oil Processors	RI/FS oversight	4

Amount De-obligated in FY 2002	Site from Which Funds Were De-obligated	Activity from Which Funds Were De-obligated	Note
1.20	Sheridan (cashout)	RI/FS oversight	4
2,911.29	PA/SI	Non-site	4
722.43	Brio	Oversight	4
376.19	RAB Valley	RI/FS	4
142.40	Arkwood	Oversight	4
21.47	Ag Street	Community Involvement	4
31,677.51	ARCS Contract Management	Non-site	4
23.26	Integrated Assessment	Non-site	4
15,000.00	Site Assessment		4
15,000.00	Tinker AFB	RD oversight	4
19,991.03	South 8th Street	Oversight	4
7,506.22	ATSF-Albuquerque	Remedial Analysis	4
8,174.48	Rinchem	Remedial Analysis	4
10,594.14	Tinker AFB	RA oversight	4
370.04	Remedial Support		4
36,561.26	4th Street	Remedial Action	4
12,437.80	Bailey Waste	PRP RA	4
26,701.28	ARCS Contract	Non-site	4
301.54	Sol Lynn	Oversight	4
39,707.46	South Calvacade	Oversight	4
19,873.57	Hardage	Oversight	4
13,664.59	Alcoa/Lavaca Bay	Oversight	4
19,597.92	Koppers	Oversight	4
18,517.12	Mosley Road	Oversight	4
10,286.65	Petrochem	Oversight	4
38,494.07	ATSF-Clovis	Oversight	4
50,040.68	PA/SI	Non-site	4
3,563.92	Alcoa/Lavaca Bay	Remedial Analysis	4
235,465.89	06009 Contract	Bulk Funding	4
17,661.68	4th Street	RD	4
3,203.77	South 8th Street	RI/FS	4
15,000.00	South 8th Street	RD	4
23,715.35	Integrated Assessment	Non-site	4
19,690.49	PetroChem	RD	4
23,970.47	Double Eagle	RA	4
25,514.13	Double Eagle	RD	4
4,155.21	Ag Street	FS	4
4,470.81	Bayou D'Inde	RI/FS	4
280,716.62	06009 Contract	Program Management	4
63,236.94	4th Street	RI/FS	4
1,000.00	Sol Lynn	RD	4
39,792.36	Double Eagle	RI/FS	4
3,817.58	North Calvacade	RD	4
8,107.28	Texarkana Wood	RD	4
10,908.67	Texarkana Wood	RI/FS	4

<b>Amount De-obligated in FY 2002</b>	<b>Site from Which Funds Were De-obligated</b>	<b>Activity from Which Funds Were De-obligated</b>	<b>Note</b>
10,325.10	United Creosoting	RD	4
10,196.28	Bio Ecology	RA	4
42,252.72	Morrison Knudson	Program Management	4
1,770,000.00	Tar Creek	RI/FS	4
2,200,000.00	Agriculture Street Landfill	Non-time Critical Removal	4
52,846.00	Brio Refining	Remedial design	4
20,035.00	Koppers	Remedial Analysis	4
24,039.00	MOTCO	PRP Oversight	4
14,533.00	Petro Chemical	Management Assistance	4
4,708.00	South Cavalcade	PRP Oversight	4
26,409.00	Sprague Road	Management Assistance	4
200,000.00	Texarkana Wood	Remedial Action	4
491,347.00	Texarkana Wood	Remedial Design	4
83,000.00	Thermo Labsystems	Laboratory Support	4
30,548.99	Metcalf & Eddy TES Contract	Non-site Specific Tech. Supp.	4
4,103.00	Non-site Specific	CORE Program	4
3,040.00	Non-site Specific	PA/SI	4
51,165.00	ATSF-Albuquerque	RI/FS Oversight	4
6,755.00	Cal West	Remedial Action	4
13,745.00	Cimarron Mining	Management Assistance	4
12,144.00	Cleveland Mill	Management Assistance	4
6,627.00	ATSF - Clovis	Management Assistance	4
12,096.00	Homestake Mining	Management Assistance	4
43,309.00	Molycorp	Management Assistance	4
13,764.00	South Valley	Management Assistance	4
7,273.00	United Nuclear	Management Assistance	4
12,075.00	Lee Acres	Management Assistance	4
181,538.52	A & B Border Contract	Non-site Technical Support	4
6,822.70	LaCostex Refining	Technical Assistance	4
11,164.56	R&H Oil	Technical Assistance	4
15,000.00	Tropicana Refinery	Technical Assistance	4
3,096.93	J.C. Elliott	Technical Assistance	4
3,368.20	Brownsville Drums	Technical Assistance	4
2,616.74	Los Ebanos	Removal Support	4
9,678.59	Gulf Coast Paint	Technical Assistance	4
775.96	Hazardous Materials Workshop	Training	4
579,275.00	Many Diversified Interests	RI/FS	4
15,939.00	Sikes Pits	Remedial Action	4
494,928.00	Odessa Chromium II	Remedial Action	4
6,743.00	Tex-Tin	Management Assistance	4
395,808.00	Jasper Creosoting	RI/FS	4
9,610,864.00	Sikes Pits	Remedial Action	4
871,798.00	North Calvacade	Remedial Action	4
21,100.00	Angie Wood	Removal	4
48,500.00	Jasper Creosoting	Removal	4

<b>Amount De-obligated in FY 2002</b>	<b>Site from Which Funds Were De-obligated</b>	<b>Activity from Which Funds Were De-obligated</b>	<b>Note</b>
129.83	Southern Shipbuilding	Removal	4
19,546.25	Texas Gulf Refining	Removal	4
20,000.05	Sprague Rd GW Plume	Removal	4
485.65	Mallard Bay	Removal	4
436.10	Delatte Metals	Removal	4
80,122.26	New Orleans Parathion	Removal	4
57,280.11	Stephenson Bennett	Removal	4
316.70	Mylar Fire	Removal	4
29.40	BPS, Inc.	Removal	4
68,115.46	Hudson Refinery	Removal	4
37,421.59	Rogers Enterprises	Removal	4
112.03	Hot Springs Mercury	Removal	4
20,729.38	Dallas Plating	Removal	4
9,415.56	Texarkana Mercury & Neon	Removal	4
39,687.88	Renner Creosoting	Removal	4
3,144.03	Doughty's Treating Plant	Removal	4
787.14	Pleasant Hill Pole Plant	Removal	4
122,707.21	Union Creosoting	Removal	4
224.18	Plano Mercury	Removal	4
154,154.10	R&H Oil	Removal	4
56,708.55	Tropicana Energy Co	Removal	4
350.49	Eri Tire Fire	Removal	4
88.05	Limestone Landfill Fire	Removal	4
7,030.03	Malone Service Co	Removal	4
772.70	R&P Electroplating	Removal	4
448.36	Rockwall Mercury	Removal	4
448.36	Arabi Mercury Spill	Removal	4
80,050.52	Gibson Recycling Tire Fire	Removal	4
25,434.87	Little Bit Rad Site	Removal	4
3,342.66	Old Storm Plastics Facility	Removal	4
10,410.07	Southwest Tire Processors	Removal	4
5,031.38	Woods Tank Farm	Removal	4
24,000.00	Red River Aluminum	Removal	4
6,110.29	Coastal Radiation Services	Removal	4
72,750.02	Gulf States Paint	Removal	4
2,950.40	North Louisiana Chemical	Removal	4
2,095.80	Tar Creek E-P Lab Chemicals	Removal	4
46,207.09	Urban Machine	Removal	4
10,516.31	Brownsville Furfural Spill	Removal	4
36,504.64	Dewey Mercury	Removal	4
15,613.36	Sol Lynn Well Plug Removal	Removal	4
17,284.90	Alvin Mercury	Removal	4
64,604.64	ETP	Removal	4
21,944.25	Nonsite Funding for Site Walks	Removal	4
602.00	Gulf Coast Vacuum	Removal	4

<b>Amount De-obligated in FY 2002</b>	<b>Site from Which Funds Were De-obligated</b>	<b>Activity from Which Funds Were De-obligated</b>	<b>Note</b>
119.00	Vertac	Removal	4
1,789.00	Kem Week Control	Removal	4
334.00	Ella Warehouse Drums	Removal	4
1,110.00	Service Circuits	Removal	4
2,228.00	Poly Cycle	Removal	4
1,610.00	Malter Internation	Removal	4
567.00	Dempco Paint & MFG	Removal	4
588.67	Shore Refining	Removal	4
1,175.00	Patterson-Edmonson Construction	Removal	4
2,891.00	Okay Trailer Park	Removal	4
11,613.32	Glenmora Creosoting	Removal	4
1,376.00	Card/Blanc/Carter	Removal	4
3,169.00	Hillsdale Drums	Removal	4
2,137.00	Marco of Iota	Removal	4
6,300.55	Hi-Chem. Inc.	Removal	4
859.00	Macmillan Ring Free	Removal	4
1,033.00	Lithium of Lubbock	Removal	4
1,023.00	Russell Fare Site	Removal	4
542.00	Ann T. King Property	Removal	4
8,132.93	Smith Smelter	Removal	4
944.00	Oklahoma Furniture	Removal	4
1,023.00	Hardco of Arkansas	Removal	4
252.00	Boeck Drums	Removal	4
1,980.00	Rab Valley	Removal	4
75,461.88	RSR OU1-Phase II RV Area	Removal	4
1,605.00	Johnson Lumber	Removal	4
5,296.52	Hart Creosoting	Removal	4
13,490.96	Central Wood	Removal	4
13,501.21	Tri Container Inc.	Removal	4
1,621.00	Good Latimer	Removal	4
1,450.00	Willie Heard Drum	Removal	4
3,216.00	Hearst Mill	Removal	4
1,333.00	Matagorda Round Up	Removal	4
967.18	Waco Drum	Removal	4
2,670.00	Terrell Plating	Removal	4
826.00	Reliable Coatings	Removal	4
714.00	Clearwater Fluids Recycling	Removal	4
13,366.16	Robin Boulevard	Removal	4
185.98	G.P. Drums	Removal	4
3,573.11	Ray Quinn Drum	Removal	4
364.17	Voda Petroleum	Removal	4
1,063.00	Cimarron Refining	Removal	4
915.00	Jacksonville Landfill	Removal	4
12,907.59	JC Pennco Waste Oil	Removal	4
1,310.93	Archem Company	Removal	4



<b>Amount De-obligated in FY 2002</b>	<b>Site from Which Funds Were De-obligated</b>	<b>Activity from Which Funds Were De-obligated</b>	<b>Note</b>
27,079.20	Tar Creek OU2	Removal	4
3,219.46	Safe Tire Fire	Removal	4
1,199.00	Rogers Road Landfill	Removal	4
3,041.91	Agricultural Street Landfill	Removal	4
480.00	Oklahoma Refining Company	Removal	4
499.00	Oklahoma Refining	Removal	4
1,381.00	Tomlinson Drums	Removal	4
1,639.00	King Sales Company	Removal	4
274.00	Baldwin Waste Oil	Removal	4
664.00	T/B Gail	Removal	4
17,111.27	CG Empire Tank Barge	Removal	4
1,041.00	Hart Creosoting	Removal	4
1,811.00	Red River Treating	Removal	4
<b>\$46,547,122.77</b>	<b>Total</b>		

### Notes

- 1 The funds deobligated from these projects, especially the Popile Remedial Action, were no longer needed as the action was complete. The funds were part of the Pipeline Operations AOA to assist the Region with the shortfall in that AOA and were not obligated for these same sites for these same activities.
- 2 The Cooperative Agreement with the All Indian Pueblo Consortium (AIPC) was closed out. Funds in the amount of \$216,355 were obligated to American Creosote for ongoing Remedial Action and Five-Year Review in FY 2002.
- 3 The funds deobligated from this project were no longer needed as the action was complete. The funds were part of the Removal Advice of Allowance and obligated on some removal actions and in the START contract for removal support.
- 4 Of the total funds recertified to the Region, \$6,151,860 was reobligated in FY2002 for the same sites and the same activities from which the funds were deobligated. These funds were transferred from one funding vehicle to another type. The remaining \$8,170,608 was deobligated from projects that were complete and the funds were no longer needed. These monies were obligated in FY 2002 for the Tar Creek Remedial Action (\$5 million) and three removal actions.



## **EXHIBIT 14**

**U.S. House of Representatives**  
**Committee on the Judiciary**

Washington, DC 20515-6216

One Hundred Tenth Congress

June 27, 2008

The Honorable Michael B. Mukasey  
United States Attorney General  
U.S. Department of Justice  
950 Pennsylvania Avenue, NW  
Washington, DC 20530

Dear Attorney General Mukasey:

We write to express our interest in reports questioning the Department of Justice's representation of the federal government as a creditor in a pending Chapter 11 bankruptcy reorganization case. That case concerns ASARCO, LLC ("ASARCO"), one of our Nation's largest copper mining, smelting and refining companies.<sup>1</sup> Reports questioning the Department's approach to the case have centered on the proposed sale of ASARCO's facilities in Texas and Arizona.

ASARCO and certain related entities filed their Chapter 11 case in 2005. ASARCO "is one of the leading producers of copper and one of the largest nonferrous metal producers in the United States with over 2000 employees in Arizona and Texas alone."<sup>2</sup> We understand that ASARCO is associated with approximately 100 Superfund sites in the United States. The media have reported that ASARCO agreed with the Environmental Protection Agency in 2003 to set up a \$100 million trust fund to help pay the company's environmental cleanup costs.<sup>3</sup> It is estimated that ASARCO's Superfund liabilities may range up to \$1 billion.<sup>4</sup>

Recently, ASARCO's board of directors accepted a \$2.6 billion purchase offer from Sterlite Industries (USA) Ltd. ("Sterlite USA") to buy substantially all of the debtor's principal assets, subject to approval by the United States Bankruptcy Court. We understand that these assets include ASARCO's facilities in Texas and Arizona. Sterlite USA will also assume certain

<sup>1</sup>Case No. 05-21207 (Bankr. S.D. Tex.).

<sup>2</sup>ASARCO, LLC Restructuring-Information Website, at <http://www.asarcorg.com> (last visited June 10, 2008).

<sup>3</sup>See Marilyn Berlin Snell, *Going for Broke – How a copper giant plans to make the public pay for its toxic mess*, SIERRA MAGAZINE, May/June 2006, at <http://www.sierraclub.org/sierra/200605/goingforbroke/page1.asp> [hereinafter "*Going for Broke*"].

<sup>4</sup>*Id.*

The Honorable Michael B. Mukasey  
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of the debtor's liabilities. The obligations of Sterlite USA under the purchase and sale agreement are guaranteed by Sterlite Industries (India) Ltd.<sup>5</sup>

Sterlite USA is an affiliate of Vedanta Resources Plc ("Vedanta"), which owns a controlling interest in Sterlite (India).<sup>6</sup> Prior to the ASARCO board's acceptance of Sterlite USA's offer, the bankruptcy court issued an order requiring the board to consider "any bidder's and its affiliates' history of compliance or noncompliance with environmental regulations."<sup>7</sup> Sterlite USA's affiliate, Vedanta, however, is alleged to have a poor environmental record outside the United States.<sup>8</sup> There assertedly have been "numerous reports that raise serious questions about Vedanta's history of compliance with EHS [environmental, health and safety] laws and regulations."<sup>9</sup>

We are not aware of whether bidders who competed with Sterling USA before ASARCO's board and their affiliates have environmental records better than, similar to, or worse than Vedanta's. Further, we understand that environmental concerns are implicated, not only by what entity assumes control of ASARCO's assets, but by such other factors as delays in the resolution of ASARCO's Chapter 11 case and delays in plan distributions. Thus, Vedanta's environmental record is not the only environmental factor that the Department confronts as it conducts its representation of the United States in the ASARCO bankruptcy.

We expect the Department to consider appropriately all of the environmental considerations posed by ASARCO's case. Based on recent events in the matter, however, we are not yet sure that the Department is adequately doing so. For example, at a recent hearing held in the ASARCO case before the United States Bankruptcy Court, in which the Sterlite USA and Vedanta issues were presented, an attorney for the Justice Department explained that "the environmental laws are less strict abroad so we think they're of limited value in determining what the record of compliance would be in the United States." He added, "And given the

<sup>5</sup>Debtor's Mot. for Final Approval of Bid Protections in Connection with a Sale of Substantially All the Assets of ASARCO LLC to Sterlite (USA), Inc. and Notice of Final Hr'g, at 2, *In re: ASARCO, LLC*, 05-21207 (June 2, 2008).

<sup>6</sup>*Id.* at n. 1.

<sup>7</sup>Interim Order Granting Mot. of ASARCO LLC for an Order Approving Bid Procedures in Connection with Selecting a Chapter 11 Plan Sponsor and Exit Transaction under a Chapter 11 Plan - Ex. A, Evaluation of Highest and Best Offer, *In re: ASARCO, LLC*, 05-21207 (Mar. 25, 2008).

<sup>8</sup>*See, e.g.*, Expert Report of Stephen D. Ramsey (submitted on behalf of Harbinger), at 14-22, *In re: ASARCO, LLC*, 05-21207 (June 8, 2008) [hereinafter "Ramsey Report"]; Cherian Thomas & Debarati Roy, *Sterlite to Acquire Asarco's Assets for \$2.6 Billion (Update 2)*, Bloomberg.com, May 31, 2008, at <http://www.bloomberg.com/apps/news?pid=20601087&sid=ae5bhkCQdio8&refer=home>; India Resource Center, *Ravages Through India*, Vedanta Resources plc Counter Report (2005), available at <http://www.indiaresource.org/issues/globalization/2005/RavagesThroughIndia365.pdf>.

<sup>9</sup> Ramsey Report, *supra* note 8, at 14.

The Honorable Michael B. Mukasey  
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June 27, 2008

disparity in the bids we think that it was not a dispositive disqualifying factor.”<sup>10</sup> This statement may reflect an attempt to summarize the Department’s efforts to assess all of the relevant environmental factors, but we cannot be sure.

Given the considerable federal liabilities associated with ASARCO based on its involvement with contaminated sites,<sup>11</sup> and in light of the above, we believe that Vedanta’s environmental track record overseas, as well as all relevant environmental factors bearing on the ASARCO bankruptcy, should be carefully studied before the Department adopts a final position on whether Sterlite USA or any other bidder should be allowed to acquire ASARCO’s assets in the United States.

In addition, we ask that you explain in writing the Department’s policy with respect to assessing the bona fides of a potential bidder that may present environmental concerns. In particular, we would like to know whether it is the Department’s policy to take into consideration factors beyond the cash value of an offer and the potential bidder’s environmental track record in the United States and abroad before offering Department support for the consummation of a sale.

Sincerely,



John Conyers, Jr.  
Chairman



Lamar Smith  
Ranking Member

<sup>10</sup>Mot. Hr’g Tr. 23: 16-25, *In re: ASARCO, LLC*, 05-21207 (June 3, 2008).

<sup>11</sup>*Going for Broke*, *supra* note 3.

## **EXHIBIT 15**

GAO

Testimony

Before the Committee on Environment  
and Public Works, U.S. Senate

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For Release on Delivery  
Expected at 9:30 a.m. EDT  
Wednesday, June 14, 2006

# ENVIRONMENTAL LIABILITIES

## Hardrock Mining Cleanup Obligations

Statement for the Record by John B. Stephenson, Director  
Natural Resources and Environment



June 14, 2006



Highlights of [GAO-06-884T](#), a report to the Committee on Environment and Public Works, U.S. Senate

## ENVIRONMENTAL LIABILITIES

### Hardrock Mining Cleanup Obligations

#### Why GAO Did This Study

Key federal environmental statutes, such as the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which established the Superfund program, require that parties statutorily responsible for pollution bear the cost of cleaning up contaminated sites. In many cases, liable parties meet their cleanup responsibilities. However, many parties responsible for hardrock mining sites include businesses that no longer exist, having been liquidated through bankruptcy or otherwise dissolved. Under these circumstances, some hardrock mining companies that have caused environmental contamination have left the problem for others, typically the government, to address.

We were asked to provide a statement for the record on the cleanup of contamination resulting from hardrock mining as it relates to our August 2005 report, *Environmental Liabilities: EPA Should Do More to Ensure that Liable Parties Meet Their Cleanup Obligations* ([GAO-05-658](#)). We made nine recommendations in this report aimed at reducing the government's financial burden for costly environmental cleanups. The agency generally agreed with many of the recommendations, stating its intent to further evaluate some of them.

#### What GAO Found

EPA could better ensure that companies at high risk of incurring environmental liabilities—including hardrock mining companies—meet their cleanup obligations by making greater use of existing authorities. Most significantly, EPA has not implemented a 1980 statutory mandate under Superfund to require businesses handling hazardous substances to provide the agency evidence of their ability to pay to clean up contamination that could result from their operations. Businesses can provide this evidence, called financial assurance, in several ways, including providing a letter of credit from a financial institution and establishing a dedicated trust fund. The 1980 law requires EPA to use a risk-based approach for both (1) identifying the entities that would be covered and (2) specifying the financial assurance coverage they would be required to have. The law also requires EPA to give priority in developing these requirements to those classes of facilities, owners, and operators that EPA believes present the highest level of risk of injury. Although implementing the financial assurance requirement could help avoid the creation of additional Superfund sites and could provide funds to help pay for cleanups, EPA has cited competing priorities and lack of funds, among other things, as reasons for having made no progress in this area for nearly 25 years. Without the mandated financial assurance regulations, significant gaps in EPA's environmental financial assurance coverage exist, thereby increasing the risk that taxpayers will eventually have to assume financial responsibility for cleanup costs. For example, none of EPA's current financial assurance regulations require companies or industries that pose significant risk of environmental contamination to provide assurance that they can meet cleanup obligations for potential accidents or spills of hazardous substances or wastes.

Hardrock mining can cause significant environmental problems; these sites are typically large, complex, and costly to clean up. For example, in 2004, the EPA Inspector General estimated that cleaning up 63 mining sites on the Superfund's National Priorities List would cost up to \$7.8 billion. In applying the Superfund law's risk-based approach for developing financial assurance requirements, EPA may want to consider hardrock mining—for example, gold, copper, and iron ore mining—a high priority because it presents taxpayers with an especially serious risk of having to pay cleanup costs for thousands of abandoned, inactive, and operating mines in the United States. Some mine owners have defaulted on multiple occasions on environmental liabilities associated with their mines, and the cleanup costs for these sites are being, or are expected to be, borne largely by taxpayers. As a result, EPA may wish to give priority in developing financial assurance requirements to facility owners whose prior actions indicate that they may pose a high risk of default on their environmental obligations. Finally, financial assurances for businesses at risk for environmental contamination can help mitigate the fact that businesses can legally organize or restructure in ways that can limit their future expenditures for cleanups by, for example, separating their assets from their liabilities using subsidiaries to protect their assets.

[www.gao.gov/cgi-bin/getrpt?GAO-06-884T](http://www.gao.gov/cgi-bin/getrpt?GAO-06-884T).

To view the full product, including the scope and methodology, click on the link above. For more information, contact John B. Stephenson at (202) 512-3841 or [stephensonj@gao.gov](mailto:stephensonj@gao.gov).

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Mr. Chairman and Members of the Committee:

We are pleased to have the opportunity to comment on the cleanup of contamination resulting from hardrock mining as it relates to our work on environmental liability issues. Key federal environmental statutes, such as the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),<sup>1</sup> which established the Superfund program, require that parties statutorily responsible for pollution bear the cost of cleaning up contaminated sites.<sup>2</sup> In many cases, liable parties have met their cleanup responsibilities. However, many parties responsible for hardrock mining sites include businesses that no longer exist, having been liquidated through bankruptcy or otherwise dissolved. Under these circumstances, some hardrock mining companies that have caused environmental contamination have left the problem for others, typically the government, to address.

As the Committee considers legislation that would waive certain cleanup requirements for such parties as industry partners and nonprofit organizations who agree to clean up contaminated hardrock mining sites abandoned by their owners, it is also appropriate to consider other actions the government can take to better ensure that companies with a high risk for incurring environmental liabilities—including hardrock mining companies—meet their cleanup obligations. As detailed in our 2005 report on environmental liabilities, the Environmental Protection Agency (EPA) could better ensure that bankrupt and other financially distressed businesses carry out their cleanup responsibilities by making greater use of EPA's existing authorities and enforcement tools.<sup>3</sup>

Most significantly, EPA has not implemented a 1980 statutory mandate under Superfund to require businesses handling hazardous substances to provide the agency evidence of their ability to pay to clean up potential spills or other environmental contamination that could result from their

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<sup>1</sup>For simplicity in this testimony, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 will generally be referred to as the Superfund law.

<sup>2</sup>The Superfund law generally applies to cleanups of contaminated sites that are no longer in use. RCRA generally applies to operating businesses that treat, store, or dispose of hazardous wastes.

<sup>3</sup>*Environmental Liabilities: EPA Should Do More to Ensure that Liable Parties Meet Their Cleanup Obligations*, [GAO-05-658](#), Aug. 17, 2005.



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operations. Businesses can provide this evidence, called financial assurance, in several ways, including providing a letter of credit from a financial institution and establishing a dedicated trust fund. The 1980 law requires EPA to use a risk-based approach for both (1) identifying the entities that would be covered and (2) specifying the financial assurance coverage they would be required to have. The law also requires EPA to give priority in developing these requirements to those classes of facilities, owners, and operators that EPA believes present the highest level of risk of injury. Although implementing the financial assurance requirement could help avoid the creation of additional Superfund sites and could provide funds to help pay for cleanups, EPA has cited competing priorities and lack of funds, among other things, as reasons for having made no progress in this area for nearly 25 years.

As we noted in our 2005 report, in applying the Superfund law's risk-based approach for developing financial assurance requirements, EPA may want to consider hardrock mining—for example, gold, copper, and iron ore mining—a high priority because history tells us that it presents taxpayers with an especially serious risk of having to pay cleanup costs for thousands of abandoned, inactive, and operating mines in the United States. As detailed in a 2004 report by EPA's Office of Inspector General, hardrock mining can cause significant environmental problems, and these sites are typically large, complex, and costly to clean up.<sup>4</sup> According to the EPA IG report, 63 hardrock mining sites were on the Superfund's National Priority List (NPL) and another 93 sites had the potential to be added to the list. At least 19 of the 63 NPL mining sites had estimated cleanup costs of \$50 million or more. In total, the 63 sites were estimated to cost up to \$7.8 billion to clean up, \$2.4 billion of which was expected to be borne by taxpayers rather than the parties responsible for the contamination. The IG report also highlighted the fact that the projected operation and maintenance period for cleanup remedies ranges from 40 years to "in perpetuity." Thus, the costs to taxpayers would increase if the liable

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<sup>4</sup>EPA, Office of Inspector General, *Nationwide Identification of Hardrock Mining Sites*, 2004-P-00005 (Washington, D.C.: Mar. 31, 2004).

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parties expected to pay for the cleanup remedies proved to be unable to do so.<sup>5</sup>

Further, we reported in 2005 that some mine owners have defaulted on multiple occasions on environmental liabilities associated with their mines, and the cleanup costs for these sites are being, or are expected to be, borne largely by taxpayers. These owners may reasonably be viewed as at high risk for defaulting on environmental obligations associated with mines or businesses that they currently own. For example, one individual is associated with several businesses that have filed for bankruptcy protection. Like other mine owners with serial bankruptcies involving contaminated mining sites, this owner continues to operate businesses having sites with significant contamination whose cleanup may eventually fall to the Superfund. If EPA developed and implemented the financial assurance regulations that the Superfund law mandates, EPA could require such owners to provide financial assurances now for existing and future cleanups, thereby reducing the amount that taxpayers would otherwise likely be required to pay.

However, without the mandated financial assurance regulations, significant gaps in EPA's environmental financial assurance coverage exist, thereby increasing the risk that taxpayers will eventually have to assume financial responsibility for cleanup costs. First, none of EPA's current financial assurance regulations require companies or industries that pose significant risk of environmental contamination to provide assurance that they can meet cleanup obligations associated with potential accidents or spills of hazardous substances or wastes. For example, when EPA reaches settlement agreements with parties regarding cleaning up existing Superfund sites, the agency generally requires the businesses to provide financial assurance demonstrating their ability to pay for the agreed-upon cleanup activities. Similarly, under RCRA's corrective action program, EPA typically requires that owners and operators of hazardous waste treatment, storage, and disposal facilities provide financial

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<sup>5</sup>The EPA Inspector General reported that at least one "clearly viable" party had been identified for 70 percent of the 63 NPL mining sites (including 11 percent where the viable party was a federal agency, such as the Department of the Interior). However, the report also emphasized that EPA should be concerned about the viability of these parties over time because of the long-term nature of the cleanups liabilities at mines.

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assurance for cleanups of spills or other existing contamination at hazardous waste facilities.<sup>6</sup>

Another significant gap in financial assurance coverage that the Superfund mandate could address involves types of waste excluded from RCRA coverage. Some types of wastes associated with mining activities can result in substantial cleanup costs but are excluded from the definition of hazardous wastes and therefore are not regulated under RCRA's hazardous waste provisions. This exclusion has resulted in a significant gap in financial assurance. In addition, we note that mining activities on private lands are not covered by the Department of the Interior's Bureau of Land Management financial assurance requirements for mines on federal land it manages.<sup>7</sup> However, some of these mining facilities handle hazardous substances as defined under the Superfund law, and, therefore, financial assurance regulations issued under the Superfund law could apply to these facilities. The Superfund financial assurance mandate could also address the significant gap in financial assurance that exists because generators of hazardous waste (such as metal-plating facilities), which are regulated under RCRA, are generally not required to maintain any financial assurances for contamination they have caused.

By its inaction on the Superfund mandate to require businesses to provide financial assurance, EPA has continued to expose the Superfund program, and ultimately the U.S. taxpayers, to potentially billions of dollars in cleanup costs for facilities that currently are not required to have financial assurances for cleanup costs, such as many gold, lead, and other hardrock mining sites and metal-plating facilities. By implementing the financial assurance requirement under Superfund, EPA could help close the financial assurance gaps discussed above by requiring financial assurances for cleaning up existing and future contamination at facilities that handle hazardous substances but are not subject to RCRA's closure/post-closure or corrective action programs, including many mining sites and facilities that generate, but do not treat, store, or dispose of hazardous waste. These financial assurance gaps may be more significant since the authority for an

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<sup>6</sup>RCRA's closure and post-closure financial assurances cover normal costs of closing and conducting post-closure care but do not cover cleanups stemming from accidental releases.

<sup>7</sup> Our report *Hardrock Mining: BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs*, [GAO-05-377](#) (Washington, D.D.: June 20, 2005) recommends ways for BLM to better manage financial assurances it requires of operators to guarantee reclamation costs if they fail to reclaim BLM-managed lands after operations cease.

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environmental tax on corporations, crude oil, and certain chemicals, that had largely funded the Superfund program expired in 1995. As a result, the federal government's general appropriations fund is increasingly being tapped to fund the cleanups paid for by the Superfund trust fund when responsible parties do not. For example, for fiscal year 2004, EPA's appropriation for the Superfund program was from general revenues only.

As we noted in our 2005 report, EPA may wish to give priority in developing financial assurance requirements to facility owners whose prior actions indicate that they may pose a high risk of default on their environmental obligations. Factors EPA may wish to consider in evaluating owner risk include compliance history—such as a history of noncompliance with environmental laws, including cleanup obligations, and magnitude of past, current, and potential environmental liabilities.

Finally, financial assurances for businesses at risk for environmental contamination can help mitigate the fact that businesses can legally organize or restructure in ways that can limit their future expenditures for cleanups by, for example, separating their assets from their liabilities using subsidiaries. A subsidiary that is engaged in a business that is at risk of incurring substantial liability, such as mining or chemical manufacturing, can protect its assets by transferring the most valuable ones—such as equipment and patents—to a related entity, such as the parent or other subsidiary engaged in less risky endeavors. The high-risk subsidiary can continue to use the transferred assets, as appropriate, by leasing or renting them. It has become common practice for experts in asset protection to recommend that corporations protect their assets in this way. A goal is to continually draw down on the subsidiary's remaining assets, such as cash from the sale of equipment, to pay operating expenses, including rental and lease payments and salaries. If a liability arises, the high-risk subsidiary's remaining assets may be reached—but generally not those of the parent corporation or other subsidiaries to which assets were transferred.

While these asset protection strategies are generally legal depending on the circumstances, it is generally unlawful to transfer assets with the intent to hinder or defraud creditors. Most states have laws that contain prohibitions on fraudulent transfers. Creditors generally must seek to invalidate such transfers within 4 years of their occurrence. Perhaps for these reasons, publications by financial and legal advisors have suggested that asset transfers be implemented in stages over time to avoid calling attention to them. The use of such strategies by parties liable for environmental cleanups presents a significant challenge to EPA in

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obtaining cleanup costs because it is hard for the agency to know about such transfers, much less obtain sufficient information to successfully challenge them within the time permitted by law. Further, because businesses typically are aware of Superfund liabilities for many years before they actually have to fund the cleanups, they have ample time to reorganize and structure themselves in ways that can limit the expenditures they may be required to make in the future.

In closing, these are issues we believe the committee should consider in evaluating legislation to encourage the cleanup of contaminated hardrock mining sites. Our report on environmental liabilities identifies several ways EPA can and should protect its financial interests, including implementing the mandate in the Superfund law to require businesses at risk of environmental contamination to provide financial assurance that it can clean up any spills or contamination that might occur in the future.

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## **GAO Contact and Staff Acknowledgments**

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UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

SIERRA CLUB, et al.,	)	Case No. 3:08-cv-01409-WHA
	)	
Plaintiffs,	)	
	)	
v.	)	[PROPOSED] ORDER GRANTING
	)	PLAINTIFFS' MOTION FOR
STEPHEN JOHNSON, et al.,	)	SUMMARY JUDGMENT
	)	
Defendants,	)	
	)	
and	)	
	)	
SUPERFUND SETTLEMENTS PROJECT, et al.,	)	
	)	
Defendant-Intervenors.	)	

[PROPOSED] ORDER GRANTING PLAINTIFFS'  
MOTION FOR SUMMARY JUDGMENT  
(Case No. 3:08-cv-01409-WHA)

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1 Upon consideration of the parties' cross motions for summary judgment, the briefs,  
 2 declarations, and exhibits filed in support thereof, and the entire record in this case, the Court hereby  
 3 GRANTS plaintiffs' motion for summary judgment and DENIES defendants' and intervenors'  
 4 motions for summary judgment. Pursuant to the Joint Case Management Statement, the parties will  
 5 meet and confer regarding a schedule for compliance with CERCLA 108(b) and payment of  
 6 plaintiffs' fees and costs. The parties will, within 60 days, submit a new Joint Case Management  
 7 Statement in which the details of any agreement are described or, if the parties are unable to reach  
 8 agreement in whole or in part, in which the parties agree to a briefing schedule for resolving these  
 9 issues.

10 IT IS SO ORDERED.

11 DATED this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

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14 \_\_\_\_\_  
 15 THE HONORABLE WILLIAM H. ALSUP  
 16 United States District Court Judge  
 17

18 Presented by:

19  
20 /s/ Jan Hasselman  
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[PROPOSED] ORDER GRANTING PLAINTIFFS'  
 MOTION FOR SUMMARY JUDGMENT  
 (Case No. 3:08-cv-01409-WHA) -1-

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28 [PROPOSED] ORDER GRANTING PLAINTIFFS'  
MOTION FOR SUMMARY JUDGMENT  
(Case No. 3:08-cv-01409-WHA) -2-

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